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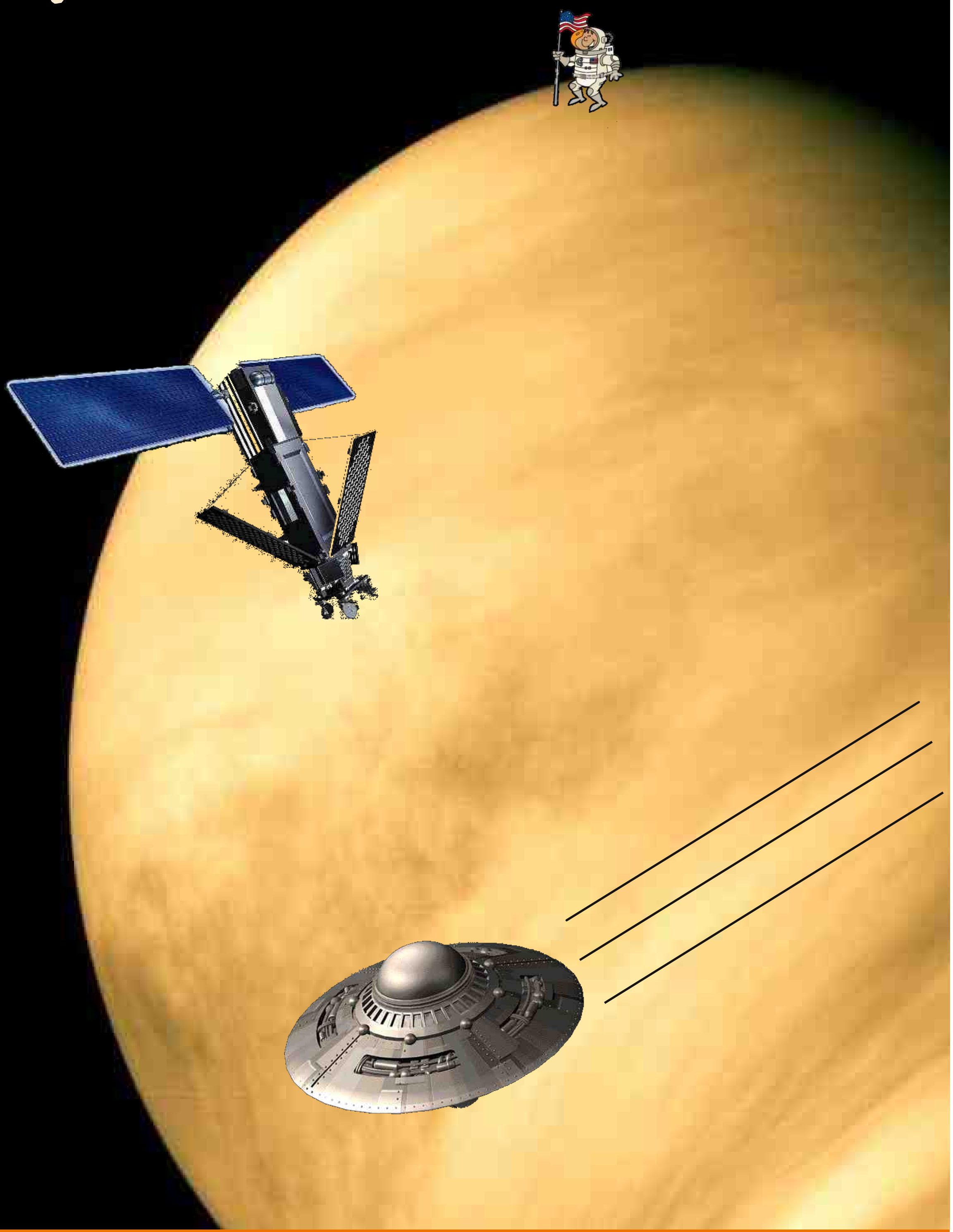
The first free & monthly E-magazine for amateur-radio, SWL...

RADIO AMATEURS BOUNCE A SIGNAL OFF VENUS



Build your RF-Power Meter

Getting started in contest

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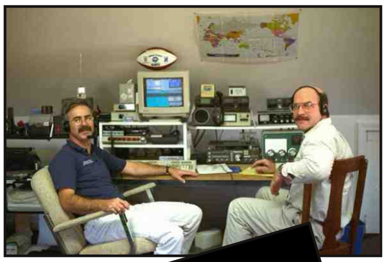

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PHONETICS – AM I BEING UNDERSTOOD?

By Gary Sawyer W0GDS

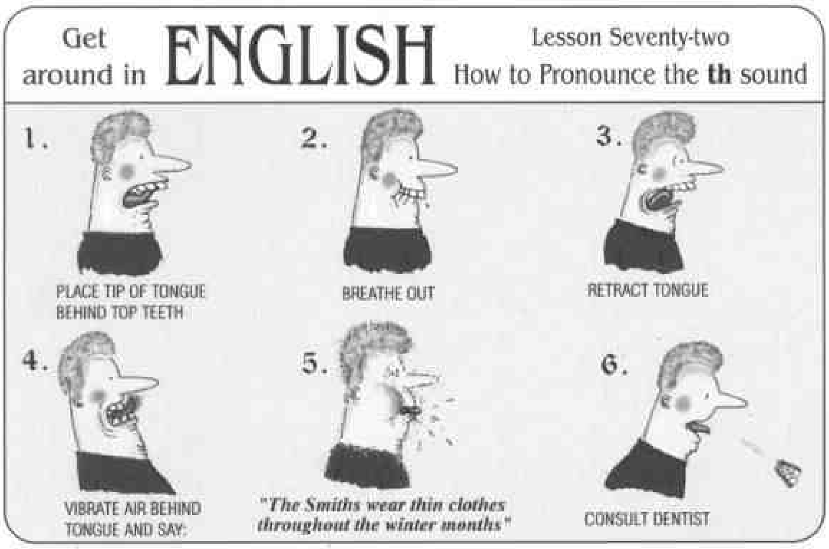
All through my years of various communications operations in this great hobby of radio, I have always been attuned to the pronunciations of words in vocabulary and how we try to clarify what we are saying to another operator.

Sometimes there is an outright laugh that cannot be helped due to the poorest of poor examples of words some people come up with when faced with trying to phonetically pronounce their intended words.

Most all of the professional (not so much an actual professional as they are just involved in that realm of communication) have been taught in either the Military or Law Enforcement phonetics styles. It is not difficult for one to access this information on phonetics in Amateur Radio. Simply look in the Technician Manual and there is a listing of the words and their phonetic mate, along with the “Q” signals and the chart for R-S-T meanings. That is another area altogether, we shall talk about that another time.

Having been trained in both areas of phonetic usage, it had not been difficult for me to cross train and learn the other style. There may be times that I must hesitate to quickly recall the correct mate word to use, but it has never been lost. Humorous times in the law enforcement operations. Some years ago when I was working as an officer for a small suburb in Dallas County, Texas, there was a new woman officer trainee learning how to use the radio and call in requests for license and registration. Most everyone in that situation of working on the same shift will always listen more intently waiting for some issue to arise.

We have all been there in our early days of operating a radio when we were timid, shy, and nervous about keying the microphone and knowing that someone on the other end is going to be listening and waiting for us to make a mistake and then we will hear the laughter, chatter and all the resulting jokes about our technique. When this officer was with her training officer, he let her call out on a traffic stop and in that event the location, and the license plate of the vehicle, along with the description of the vehicle is given. The license plate was one of those with alpha characters and some numerals. To give the alpha characters that distinction of which characters she was seeing she relied upon her immediate knowledge and recited the letters as “K” “H” and then stated “Kitten - Harold.”


Get around in ENGLISH
Lesson Seventy-two
How to Pronounce the th sound
1.
PLACE TIP OF TONGUE BEHIND TOP TEETH
2.
BREATHE OUT
3.
RETRACT TONGUE
4.
VIBRATE AIR BEHIND TONGUE AND SAY:
5.
"The Smiths wear thin clothes throughout the winter months"
6.
CONSULT DENTIST

Everyone was cracking up! It was a riot for the remainder of the shift. She has not lived that day down yet and it has been over twenty-years now. How funny. But that is right! We all do it. We have a memory blank and use the most immediate word that comes to mind and before we know it that word is out on the air.

Phonetics is not only for brevity, but also for clarity. Hopefully it makes the reception of the information by the other operator easier to understand the first time. By our usage of the prescribed format and mate words being used in the particular service, our communications will be easier to understand and concise.

Today when I listen in on public safety or amateur radio HF frequencies, I still hear operators adlibbing with the most atrocious mate words. Instead of using “JOHN” for the letter “J” in public safety I hear officers say “JACK” or even “JILL” and this does not sound very professional at all. Of course it keeps the airwaves hopping with funny sounding words but it is not something that would be measured as professional by someone who is conducting a survey of proper procedures.

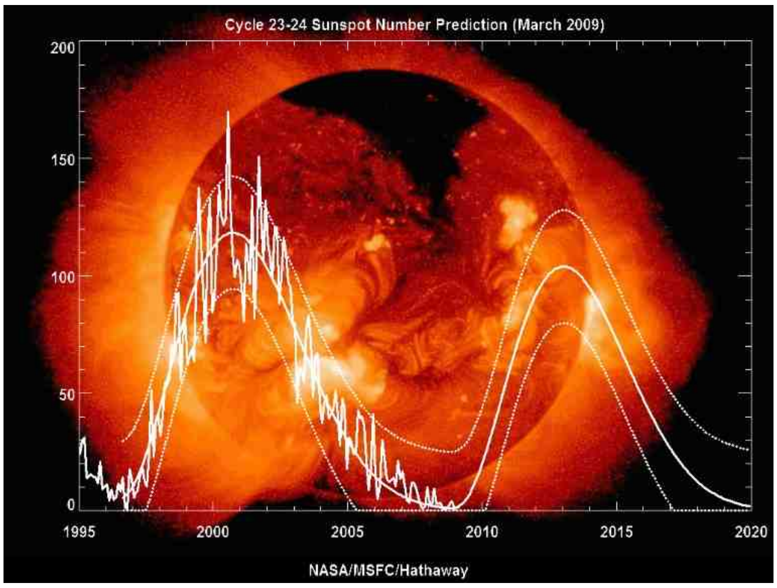
On the amateur radio I many times will hear operators using “KILOWATT” for “K” when the proper mate word is “KILO”. Kilowatt is a measurement of power and not a word for phonetics. There are many other substitute words being used in amateur radio and it really sounds poor. Often times I will hear the DX operators outside the USA, using better proper phonetics over what one would expect from the largest country with number of licensed amateur radio operators.

One major item about amateur radio is that there is no one country that holds any precedence of superiority over another country. The USA seems to have more licensed operators and there seems to be more manufacturers of radio related equipment in the USA than most any other country. Germany and Japan both have some very good quality equipment produced in their respective countries. When I hear an operator outside of the USA they are usually better at their phonetics usage than the operators in North America or the USA.

So in closing I would offer this to all my fellow operators in the entire amateur radio and any professional communications operations, become very familiar with the proper professional phonetic words that are listed to be used to verify the letters that are being said, instead of substituting with local colloquialisms and “funny” words that do not sound professional at all when on the air. You will feel better about yourself, and others will be able to more clearly understand you as well.

73 and have fun with the new cycle.
Gary W0GDS

** An article being submitted for consideration of printing in QST Magazine*



Getting Started in Casual contesting

By Dick Thompson - W0RAA

Having been licensed for many years (45 years in all), I have had an opportunity to partake in many of the various facets of amateur radio. I've been a net control station for the Ohio SSB Net when I was living in Ohio. I have participated in many disaster situations including the 1964 Palm Sunday Tornado that struck Indianapolis, IN and the surrounding communities. (I may be one year off on the year, but at my age, senility makes for a good excuse). I have handled phone patch traffic for troops stationed in far off places like Korea, Viet Nam, Europe, etc. I've demonstrated amateur radio in Special Events and participated in many Field Day operations. All have been very rewarding and in most cases, fun activities. But that's not the purpose of this article. Amateur radio offers something for everyone, and many, if not all, can be fun activities. In the past few years I have found my niche in ham radio: contesting.

For many years I dabbled in contesting in one form or another. I rarely submitted a log in any of them and my participation consisted of mainly passing out contacts to the serious contenders. Then, after I retired I decided to get back on the air (after having been off the HF bands for almost 10 years). I live in a retirement community and management kind of frowned on antennas. So, one day I approached the then current manager, and told him I had been a ham for almost 40 years, and I wanted to get back on the air and had intentions of putting up a vertical antenna. (I was mainly on 2 meters and 440 during that 10 year period, so I was never completely off the air). His response was "No problem, as long as the neighbors don't complain about television interference, etc." So, I was on my way.

I decided to get back into doing some contesting and looked at my options for various modes. Of course SSB can be done by anyone, CW has always been a fun mode for me, but I had never experimented with digital modes like RTTY and PSK31, etc. I bought an Icom 757 and put up a 14 AVQ vertical. It was great being back on HF again. I made many contacts that summer, and had only one complaint from a neighbor. I was getting into her computer speakers. A couple toroids solved that problem. No problems since.

I decided to get into a CW contest, so I entered one of the SS (Sweep Stakes) contest. I can't recall which one. I had a ball. My score wasn't very much, but I had fun and that was my goal. So when the fall contest season started I decided to participate much more than I had in the past. I purchased WriteLog as a contest software package and it worked quite well as it supported many big and small contests. WriteLog is $35 and renewals are $35 if you decide that any updates that have been added since your last purchase will be necessary for your needs. All upgrades are free for one year with WL. So, any additional upgrades in that 12-month period are at no charge. The web site for WriteLog is www.writelog.com.

Also, another very capable program (and it is free) is N1MM Logger (www.n1mm.com). It is regularly updated and bugs that may happen as "bumps in the road" are usually fixed in a reasonable period of time once they are reported to the N1MM programming team. N1MM also supports a wide range of contests. I might add that both N1MM and WriteLog support the Colorado QSO Party.

There are other software packages available, but I am not familiar with any of them, so I won't elaborate on them at this time. A Google search for "Contest software" will produce enough sites to keep you busy and off the streets for weeks, if not longer.

Of course, if you don't want to use a computer to log contacts that you make in a contest, there is always the pencil and paper method. Just be sure you can read your writing after the contest is over. Since most log submissions are made over the Internet, and the contest software packages have the ability to create Cabrillo files for submission, I would suggest that you use a computer. Another advantage is that most contests do not allow duplicate contacts on the same band, and the contest software programs will let you know if you have worked a station before. Keep in mind that contesting is not allowed, by gentleman's agreement on any of the WARC bands. The WARC Bands are 12 meters (24.890 KHz to 24.990 KHz), 17 meters (18.068 KHz to 18.168 KHz) and 30 meters (10.100 KHz to 10.150 KHz). There are CW, RTTY & Data frequencies on all the WARC Bands as well as Voice frequencies. The WARC Bands were named after the World Amarteur Radio Conference (WARC) held in 1979. The new Channelized 60 meter band is never used in a contest, and the frequency channels vary (there are 5 channels in the 60 meter band). I won't elaborate on those frequencies here, as not many folks are using that band. For those who are not interested in contesting and abhor the QRM created by contests, you can take refuge in the WARC bands and operate with no contesters to bother you.

The use of a computer in a contest simplifies the process and enhances the fun. My favorite form of contesting is using RTTY mode. I participate in most major RTTY contests, including the ARRL RTTY Roundup (I have taken First Place in the Rocky Mountain Division in 2007) as Multi/Single LP (Multi-Op/Single Transmitter, Low Power). Shel (KF0UR) and Jim (N0TUI) were co-operators in that contest. I operated in the Colorado QSO Party last July and took First Place in In-State CW Low Power and First Place in In-State Digital Mode Low Power. Both Single Operator.

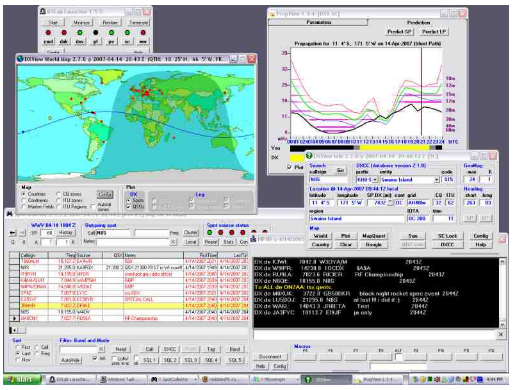
CQ Magazine is a huge sponsor of contests. They have the CQWW CW, CQWW RTTY, CQWW SSB, CQWW SSB WPX, CQWW CW WPX, CQWW RTTY WPX, and the list goes on and on. The ARRL sponsors many contest on HF and VHF. The ARRL DX Contest is a big one. The RTTY Roundup is one of the most popular contests also. North American QSO Party contests are very popular and a good way to get your feet wet. A good site to check out, for what contests are happening at any given time, is http://www.hornucopia.com/contestcal/. Another is SM3CER's site, which is located at http://www.sk3bg.se/contest/index.htm. You may also want to take a look at the National Contest Journal web site located at http://www.ncjweb.com/index.php. And there are many more. All are very helpful. Also, there are many contesting forums on www.Yahoo.Groups.com. Do a search for Amateur Radio or Ham Radio. The National Journal magazine produced by the ARRL is a first class publication with a lot of great contesting information as well as hints and kinks type of articles.

Don't forget to look at Amateur Radio Contesting FAQ's at
http://www.qsl.net/zs1an/contesting_faq.html#warc.

You might ask questions like "What does SOAB mean?" What about "SOLP?" SOHP?" etc.

These are all abbreviations for contest entry categories:
o SOLP - Single Operator Low Power
o SOHP - Single Operator High Power
o SOAB - Single Operator all band
o SOSB - Single Operator Single Band, often includes the band, e.g. "SOSB/80" for a single band entry on 80m
o M/S - Multi/Single - Many operators but only a single transmitter
o M/2 - Multi/Two - Many operators with two transmitters
o M/M - Multi/Multi - Many operators with many transmitters

You don't need to have a "Super Station" setup to have fun in a contest. The simplest of rigs and antennas will allow you to participate. Nobody is going to refuse to contact you because your signal isn't 20 over S9. Every contact the big pistols and the small pistols make count for points, and who knows, you may be a "multiplier" contact for someone that may put them in First Place. So every contact counts, and many contesters listen for both the loud and the weak stations.



With the software that is available today and with the soundcards in the computers, getting into a RTTY or CW contest or any contest is a piece of cake. The Fn keys on your computer can be programmed to send your reports, in RTTY, CW as well as voice. I have actually been in contests and never touched the keyboard of my computer. All I had to do was point and click with the mouse. OK, OK, call it lazy, but it's still fun. Ain't technology great, as the old saying goes? You can set the software to key your transmitter, make the exchange and then log the contact, making you ready for the next one. And believe me, they can come fast and furious at times.

If you have never participated in a contest and would like to get started, I suggest that you start by entering a small contest like a state QSO party. There are also short Sprint Contests that usually last about 4 hours on a weekend afternoon or evening. The NAQP (North American QSO Party - CW, SSB & RTTY) are all great contests to enter.

I could go on and on and bring up a lot of other thoughts and ideas on contesting, but you really need to get into a contest to learn what it's all about and find out about all the fun you may be missing or could be having, whichever the case may be.

73,
Dick - W0RAA

THE “NO-GO” KIT (as published in World Radio)

by Don Rand KA5DON

Any Amateur Radio operator worth his/her salt has a “Go Kit” or at least a written list of things to grab in the event of an emergency. Many keep the box packed and in the car/truck/camper ready to go, many more have something partially packed. This is not designed to tell you what to pack, or equipment to have. Only to stimulate your thoughts (as if we didn’t already have plenty to worry about) about survival without going out, and providing our communication services to the community.

Recently, I was involved in the State Level planning of an event, rarely even spoken about. Pandemic Flu of the magnitude of the 1918 Influenza. The best reference is the CDC website PandemicFlu.gov. Over on the right hand side of the first page is a link to Community Mitigation. Very interesting reading, and guidance. It has some startling predictions, and casualty numbers, but more importantly, has 3 very simple methods to mitigate the impact of any pandemic event. Let me start by clarifying some facts.

1. This flu is a novel virus, one the world has never seen before.
2. No one in the world will have immunity from it.
3. It will take 3 to 6 months to develop any vaccine.
4. It will be a local event – worldwide (every town, city, state, country will be effected by it).
5. It will last from 12 to 18 months.

This type of event will not require a “Go Kit”. It will require a “NO-GO Kit”. The Amateur Radio Operator will have to stay home.

The first precept of mitigation is to eliminate (not avoie) ELIMINATE contact with anyone outside of your home (Social Isolation). At certain trigger points (see PandemicFlu.gov) schools will be closed, day care facilities will be closed, and all extracurricular activities will be stopped. With that thought, you can imagine the cascading impact on work if someone has to stay home to take care of children. How many business will have to close because of that. How long can utilities (read power grid) be maintained with up to 30% of the workforce unable to work? How many gas stations can stay open, Grocery stores? Some of the larger food suppliers have already said that all fresh food sales will stop. Canned/dry foods only.

The second precept of mitigation is Social Distancing. If you do have to go out of your home, stay at least 6 feet away from anyone else. No hand shaking, no “hugging”, no public congregation. Will your local grocery store have people to stock the shelves, run the cash registers, will there be deliveries to resupply them? One of the major chains has already said they will cut back to non-perishable goods only (can goods, dry foods, etc). No fresh vegetables, fresh meat, and perhaps no dairy products.

The third precept is personal protective equipment. If you must go out, and must interact closely with people outside your home, wear a protective mask, and practice absolute handwashing any time you touch “common use” equipment, and do not touch your face or other parts of your body until you have used a hand sanitizer, or soap and water.

Now, what part of this effects the Amateur Radio Operator. Be prepared, make sure you have as much stored non-perishable food as you can possibly have 3 to 6 months would be best. If you are fully reliant on local utilities (don't have your own well), make sure you have stored water, and means to sterilize city water (boiling, treating) and an alternative method of supplying electricity. Now is the perfect time to consider solar power at least to recharge batteries as there is no guarantee there will be gasoline to power generators since it takes people to run the gas stations, deliver the gas, run the refineries….

Devise ways (intercom at your door so you don't have to open it) to accept messages and still be socially isolated. FRS/GMRS radios in the neighborhood. If you are in a service industry, avoid social contact.

The CDC (PandemicFlu.gov) predicts that 30% of the people in the world will be ill because of a Pandemic Event, with the mortality rate of up to 2% (worst case scenario) of those who do become ill. The numbers are staggering, but can be mitigated down to just above seasonal flu rates if the 3 precepts are rigidly adheared to, Social Isolation, Social Distancing, and Personal Protective Equipment.

Get your NO-GO KIT ready. At the very worst, you will have 3 months supply of food in the house, and an alternative power source for the first Post Pandemic Flu field day.

Don Rand
Originally licensed in 1979 as WL7AGN, upgraded to KL7JS. Re-licensed in 2003 as KD5WHC and upgraded to Extra in 2007 as KA5DON. ARRL ECC1,2, and 3 completed along with all ICS courses 100 thru 800 in addition to all Homeland Security and Army WMD and Situation Response courses. A Registered Nurse since 1974, and involved in Medical Emergency Planning and Response for over 30 years. Retired 1 Sept 2005 (2 days after Katrina) from the US Army with 30 yrs, 10 months, 23 days of service (the last 23 days were the hardest). Can be reached at KA5DON@ARRL.NET

RF Power meter / dummy load

By Guy, de ON6MU

About the power meter / dummy load

A 50 Ohm dummyload is an essential part for any radioamateur as is a powermeter. The prices of such relative simple equipment is expensive, but not for us handy Hams HI. All you need is a metal box (or plastic box painted inside with graphite or other conducting/RF-shielding capable material), a few resistors and basic components (which can be salvaged from old radio's, switching power supplies etc..) and a analog meter. I used a Radio-shack meter, but any (sensitive) meter can be used. It's all a matter of calibrating your meter correctly, which is easy if you can lend a good commercial RF power meter.

This RF-power meter combined with build-in dummy load is made to measure power levels starting from a few milliwatt up to 50 watts (or more if suitable components are used and more then diode is used). IT has 3 scale readings: 0.5 watt, 5 watt and 50 watts. Again, you can extend the scales easily. The power meter is ideal for measuring QRP levels.

In short, an easy and cheap project to build yourself. Even a beginner in HAM homebrewing can make his own fair (if not better then meters you buy in the shop) power meter!

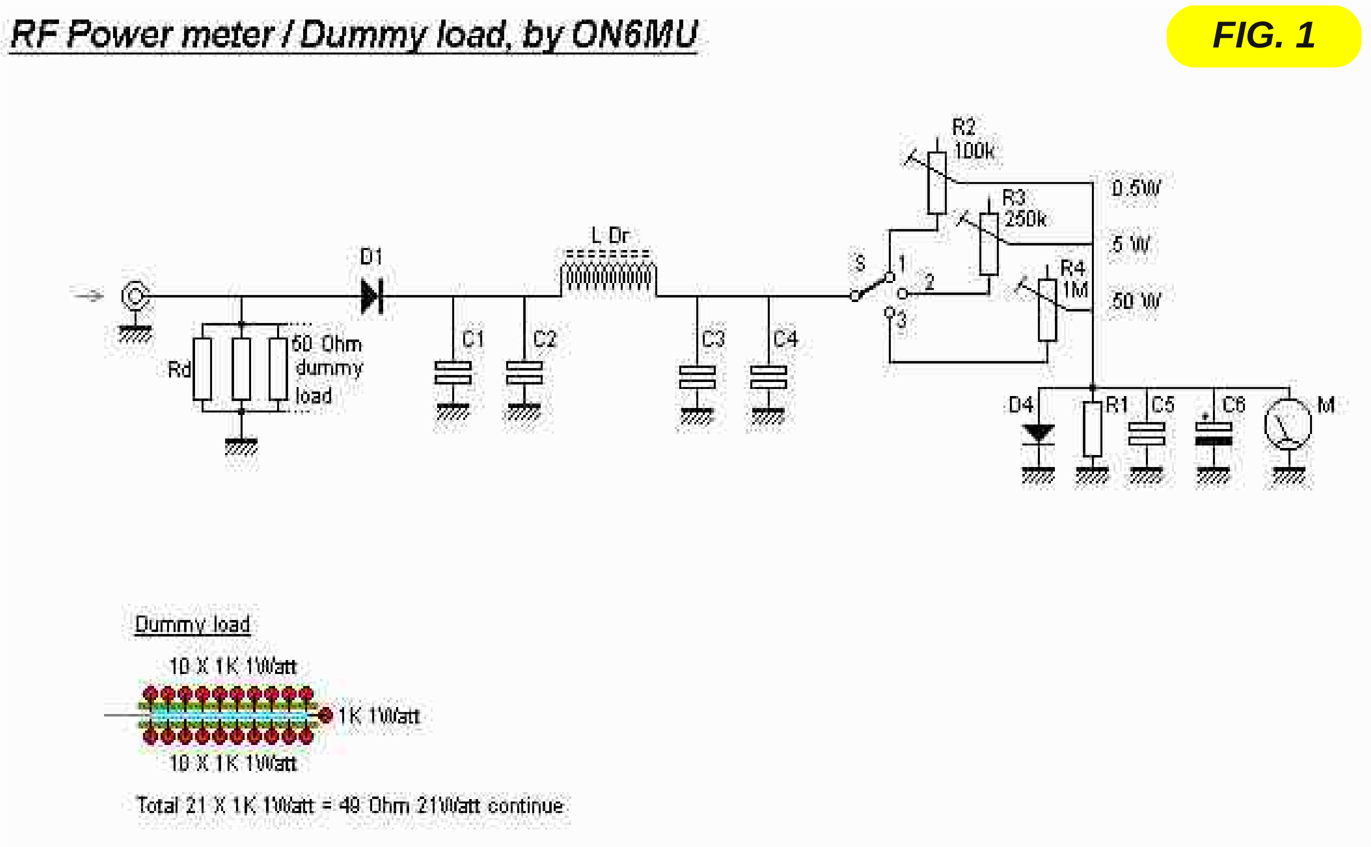
Calibration

Is done with a good (commercial or already calibrated) SWR/RF power meter capable of measuring HF power levels from 5 (or less) to 50 watts and has a frequency range that covers the entire HF-band. You also need a transceiver which you set in series with the meter:
TRX -> COMMERCIAL RF METER -> ON6MU RF METER.

Set all potentiometers (R2,R3,R4) to maximum resistance. Choose one of the scales (0.5, 5 or 50 watts) to start with. Other power levels/scales with the same step (X1 X10 X100) will have the same indication multiplied. So if you choose scale 2 being 5 watt and calibrate at least 5 power levels of your transceiver it should be ok for the other scale selections. Set R3 for full scale at 5 watt and work your way down. One calibration for all power level settings is sufficient.

See schematic fig1 next page

FIG. 1



Parts list

- Alu box (or plastic box painted inside with graphite) of 100mmX100mmX 50mm
- 1 female PL 259 chassis (SO239)
- Analog Meter (as sensitive as possible and calibrate the scale with a good powermeter)
- C1,C3 = 330pF
- C2,C4 = 47nF high quality
- C5 = 100nF
- C6 = 10uF/6v tantal
- D1 = 1N1448 (or for higher powerlevels use 2 or 3 more diodes in serie)
- D4 = 1N1004 (protects the meter for all voltage higher then 0.6 volts)
- S1 = 3 pos. switch (or more if you want more power scales)
- L Dr = 500uH or 1M Ohm carbon resistor 1 watt covered with 0,2mm Cul 3 times (or more) turned over the length of the resistor
- R1 = 18k
- R2 = 100k variable resistor
- R3 = 250k variable resistor
- R4 = 1M variable resistor
- Rd = 50 Ohm Dummy load of at least 20 watt (see text)*

***Specification*s**

- precision power meter capable of measuring power scales of 500mW...100W (depending on components used, see text)*

- frequency range: entire HF band 1Mc...30Mc (50Mc should is possible but the precision tolerance will drop)

- switchable scale ranges (in this schematic 0.5W, 5W, 50Watts)

- can be used as dummy load also HI

Inside the powermeter

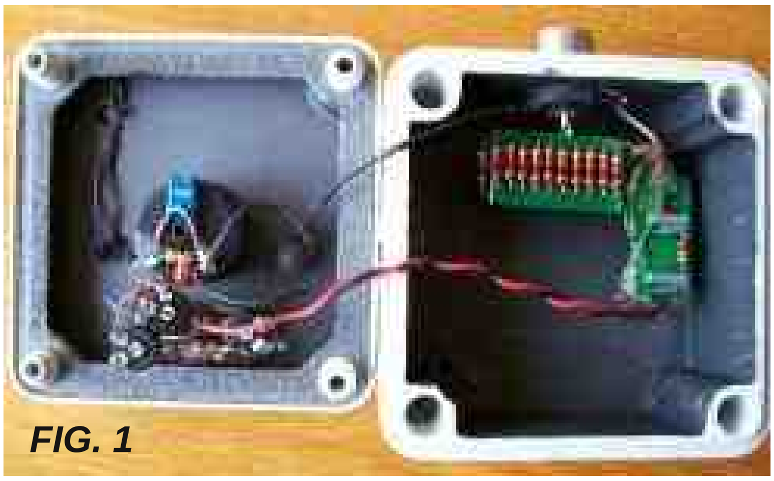


FIG. 1

Dummy load

Is build out of 21 carbon resistors of 1K and 1Watt all parallel. I used two 15mm X 50mm print boards and soldered two times 10 resistors on each side. Solder the two parts on top of each other and solder the 21th 1K resistor where the two parts come together. See fig1 and 2. Do not use inductive type of resistors! Always use carbon based resistors. This dummy load is able to dissipate 21 watts continues and no problem to handle a 10 second peek of 50 watts. Long enough to measure the power. Be sure not to transmit high power > 21 watt for a long time as this will burn out your dummy load! IF you need the dummy load to handle more power then you could use 45 2k2 1 watt resistors which doubles the amount of power (and peek power). Of course you can use 1 k resistors of a higher power rating as long as they are carbon resistors.

73's ON6MU

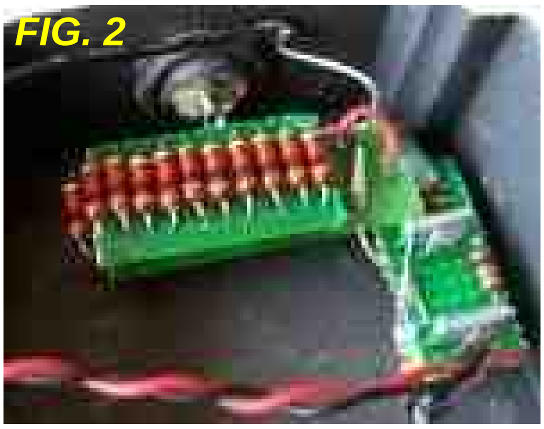


FIG. 2

EVE !!!

Radio Amateurs Bounce a Signal off Venus

Pic. : Venus lightning concept 2006

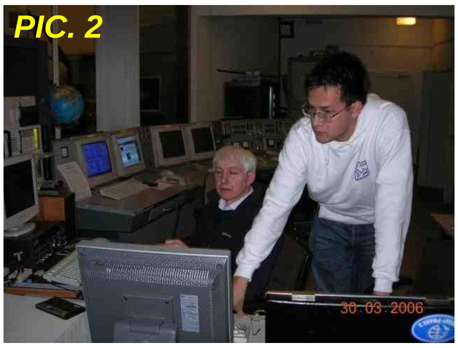
Radio Amateurs have achieved the very first reception of amateur signals bounced off the planet Venus over 50 million km away - EVE (Earth-Venus-Earth)

Peter Guelzow DB2OS, President of AMSAT-DL has provided a description of this landmark achievement.

On March 25th, 2009 a team from the German space organisation AMSAT-DL reached another milestone on its way to an own interplanetary probe towards planet Mars. The ground station at the Bochum observatory transmitted radio signals to Venus. After travelling almost 100 million kilometers and a round trip delay of about 5 minutes, they were clearly received as echoes from the surface of Venus. Receiving these planetary echoes is a first for Germany and Europe. In addition, this is the farthest distance crossed by radio amateurs, over 100 times further than echoes from the moon (EME reflections).

PIC. 1

PIC. 2


30.03.2006

For receiving the EVE signals, an FFT analysis with an integration time of 5 minutes was used. After integrating for 2 minutes only, the reflected signals were clearly visible in the display. Despite the bad weather, signals from Venus could be detected from 1038UT until the planet reached the local horizon.

The 2.4 GHz high power amplifier used for this achievement is described in the current AMSAT-DL journal. This represented a crucial test for a final key component of the planned P5-A Mars mission. By receiving echoes from Venus, the ground and command station for the Mars probe has been cleared for operational use and the AMSAT team is now gearing up for building the P5-A space probe.

For financing the actual construction and launch, AMSAT-DL is currently in negotiation with the DLR (Deutsches Zentrum für Luft- und Raumfahrt) amongst others, to obtain financial support for the remaining budget of 20 Mil Euros.

AMSAT-DL wants to show that low-cost interplanetary exploration is possible with its approach.

More information and the link to the official press release [in German]:

http://www.amsat-dl.org//index.php?option=com_content&task=view&id=166&Itemid=97

The EVE experiment was repeated on Thursday, March 26th for several hours with good echoes from Venus. Morse code was used to transmit the well known “HI“ signature known from the AMSAT OSCAR satellites.

73s de DB2OS
Peter Guelzow - President AMSAT-DL

A video showing P5-A Project Leader Prof. Dr. Karl Meinzer DJ4ZC and Freddy ON6UG with the 2.4 GHz amplifier used for EVE can be seen at: http://tinyurl.com/EVE13cmAmp

Peter DB2OS and other members of the AMSAT-DL team regularly attend the AMSAT-UK International Space Colloquium. This year the Colloquium is being held at the University of Manchester from Friday July 24th to Sunday 26th July. Further details at http://www.uk.amsat.org/colloquium

AMSAT-DL has achieved a number of Amateur Radio firsts using the Bochum facility. This was a disused radio telescope restored by volunteers to serve as a ground station for the Amateur Radio mission to Mars P5-A, the first private venture interplanetary spacecraft.

Control Software for the Amateur Radio Bochum Facility
http://amsat.org/amsat-new/articles/G3RUH/
Voyager 1 received by AMSAT-DL group
http://www.southgatearc.org/news/april2006/voyager1.htm
AMSAT-UK Colloquium 2006 – Receiving Voyager 1
http://www.southgatearc.org/news/june2006/receiving_voyager1.htm
AMSAT P5-A ground station successfully receives ESA's MARS-EXPRESS Probe
http://www.amsat-dl.org/p5a/p5a-bochum-eng.htm
Presentations on P3E and the Mars Orbiter P5-A
http://www.southgatearc.org/news/july2008/p5a_and_p3e_presentations.htm
GO-Mars with AMSAT-DL's P5A Mission http://www.ticket-to-mars.org/
Attached Pictures

Pic. 1 : Amateur Radio Bochum Facility

Pic. 2 : AMSAT-UK Member James Miller G3RUH and Achim Vollhardt DH2VA receiving Voyager Signals using the Bochum Amateur Radio station.

THE DX NEWS

From the Web (tnx opdx, 425 dx news, arrl...)

5H, TANZANIA

Operators Hermann/DL2NUD and Joachim/DL9MS are planning to be active as 5H1HP and 5H1MS, respectively, from Zanzibar, between May 16th and June 2nd. Activity will be on the HF bands and 6 m. but an emphasis will be on VHF (EME/MS). Grid KI93RU and KI94RA.

8R, GUYANA

The 6 Meter Beacon Project, Inc., is happy to announce a HF-50 MHz DXpedition here between June 16th and July 6th. Antenna for 6 meters will be a 6M7JHV yagi at 45 ft. on the Atlantic Ocean pointed towards EU and NA, and using a 3CPX800A7 amp. Activity will be split between two teams: 11 days will be by Chris/W3CMP and Dave/N3DB, the other 11 days by Terry/K4RX and Ken/AC4TO. They hope to get some decent openings to, amongst other places, Northern EU, 5B/4X and W6/W7. They expect to have internet access most of the time. Operating frequencies and Web site will be announced at a later date.

AN8, CANARY ISLANDS

Operators Luis/EA8AY, Jeronimo/EA8NC, Pedro/EA8QP and Juan/EA8TT will use the special callsign AN8R during the CQWW WPX CW Contest (May 30-31st) as a Multi-Multi entry. QSL via EA8AY. Visit the special AN8R Web page at: http://www.ea8ay.com/an8r_wpx/

AX, ANTARCTICA (Special Callsign)

Bob, VK0BP, currently employed by the Australian Antarctic Division as a Communications Tech from Davis Base Station (WABA VK-03, WAP AUS-03, IOTA AN-016), Antarctica, will be using the special callsign AX0BP on April 25th, to celebrate ANZAC Day. ANZAC Day is a national public holiday to commemorated and honor the members of the Australian and New Zealand Army Corps (ANZAC) who fought at Gallipoli in Turkey during World War I. This holiday is observed by Australia and New Zealand, as well as the Cook Islands, Niue, Samoa and Tonga. Bob can only use this callsign from midnight to midnight (local time -- Davis is +7 hrs UTC). However, Bob will not be able to operate the full 24 hours but will do his very best to operate as long as possible that day. Australian operators can only use the AX prefix just 3 times per year -- Australia Day (January 26th), ANZAC Day (April 25th) and World Telecommunications Day (May 17th). QSL via VK2CA, direct only (2 USDs and a SAE is preferred).

C6, BAHAMAS

Look for C6APR to be active again from the Crooked Island Lodge, Pittstown Point, Crooked Island (NA-113), Bahamas. Activity will take place between July 23-27th, and during the RSGB IOTA Contest (July 25-26th) as a Multi-Op/Mixed-Mode/High-Power/DXpediton entry. Operators mentioned are: Pete/W2GJ, Ed/K3IXD, Dallas/W3PP and Jim/K4QO. Operations before and after the contest by C6APR will be on 80-10 meters including the 30/17/12 meter bands using CW and SSB. Also, look for C6AXD to be on RTTY and C6AQO on 6 meters (grid FL22). All three callsigns are good for Bird Rock Lighthouse (ARLHS BAH-005) as well as IOTA NA-113 and Grid Locater FL22tt. All QSLs go to K3IXD.

GD0, ISLE OF MAN (EU-116)

Stewart, GM4AFF, will be active as GD0F during the RSGB IOTA Contest (July 25-26th) as a Single-Op/All-Band/SSB/24-Hrs/ Island entry. QSL via M0CMK.

HI, DOMINICAN REPUBLIC

Ronny, OT4R, will be active as HI7/OT4R from Punta Cana between May 9-30th. Activity will be on 20/15/10 meters SSB. Suggested frequency for 20 meters maybe 14300 kHz. QSL via OT4R.

S2, BANGLADESH

By the time you read this Ramon, DU1UGZ, is expected to be active as S21UGZ from Dhaka City until June 20th, depending on his work schedule. He will be using a low band dipole at first, so his emphasis will be on 80/40 meters SSB and RTTY. From May through June, he will be using a beam for 10, 12, 15, 17 and 20 meters. He hopes to have a linear in use starting in May as well. QSL via DU1UGZ.

SX5, DODECANESE (GIOTA Op)

Members of the Dodecanese Radio Amateur Association (DRAA) will be active as SX5SYMI from Symi Island between July 31st and August 3rd. Activity is good for the GIOTA (Greek Island On The Air) as DKS 032 and also the IOTA as EU-001. QSL direct to SV5FRI.

V63, MICRONESIA

Operators Shoji/JA7HMZ (V63DX) and Masayuki/JH7IOS (V63CW) will be active from Pohnpei Island (OC-010) between May 11-16th. Activity will be on 40-6 meters using CW and SSB. QSL via their home callsigns.

YW0, AVES ISLAND

The 4M5DX Group, which was expecting to activate YW0A from Aves Island in March, is still waiting for a scheduled day by the Venezuelan Navy for transportation.

ZS8, MARION ISLAND

This is per the ZS8T Web page : "ZS8T is now QRT. He leaves the island soon and is expected back in ZS mainland in the middle of May. QSLs will be uploaded to LoTW. Additionally, all QSLs which are sent to the manager will be answered. Any questions regarding his operation from Marion Island should now be directed only to ZS6GCM.

7X - ALGERIA

under the patrona of Mr. the governor of the state of Djelfa and the Director of Youth and Sports, the Algerian Radio Amateur Association (A.R.A) and Djelfa radio club (7X2VFK) will organize an international Ham meeting from 15 to 21 June 2009 with a special call for the event (all modes...), and diploma instead of a qsl card, we provide transportation from Algiers airport to Djelfa and Djelfa at the airport Algiers "Djelfa-Algiers 300km" and the accommodation and catering + a day of sightseeing around Djelfa (rock rock rock sel.et. ...) has all associations, clubs, radio, OM's, XYL's, YL's who want to participate with us in this international event, send us your request for participation at the following addresses: General Secretary of the A.R.A (benlagha72@hotmail.com) or president of Djelfa radio club : (bodil17000@yahoo.fr), to stop our coutrys list partcipants and to prepare the official invitations . Hospitality is our motto dear OM's, we seek the friendship and brotherhood among radio amateurs in the world then the exchange of experiences of the last transmission technology. Djelfa wish you welcome ...!! The President of Djelfa radio club (7X2VFK) Mohamed

THE DX CALENDAR
BY SM3CVM, Lars
http://www.sk3bg.se/

From May 2009 to early 2010

- 3/5 GUYANA; 8R1AD
by KE7TBB and N7EAA. Activity will be on 20 meters using CW, SSB and PSK31. They plan to look for stations who are young ham operators and running low power (kilowatt and under). QSL via N7EAA.

- 5/5 UGANDA; 5X1NH
by G3RWF. This time he may also give digital modes a try, and will try to improve his antennas for the low bands. QSL via home call.

- 31/5 UGANDA; 5X4X
from Arua by DL8SBQ. He runs 100 watts into a spiderbeam for 20, 17, 15, 12 and 10 metres and a Zepp antenna for 40 metres. He has been pirated on 160, 80 and 40 metres - if you worked him during the evening hours, please note that Peter cannot operate after 20 UTC, because the power is off in Arua. QSL via DF5GQ.

- 31/5 CANADA; XL, XN, XM,and XO
Celebrating the 50th anniversary of the opening of the St. Lawrence Seaway, Canadian amateurs are allowed to use the following prefixes: XL (VA stations), XN (VO stations), XM (VE stations), XO (VY stations).

- 20/6 BANGLADESH; S21UGZ
from Dhaka by DU1UGZ. He operates in his spare time using a low band dipole. For the time being, he will focus on 40 and 80 metres SSB and RTTY, but in May he should get a beam for 10, 12, 15, 17 and 20 metres and hopefully a linear amplifier as well. QSL via home call.

- 30/6 NIGERIA; 5N0OCH
by DL3OCH (HB9EHJ). He plans to operate during his spare time on 160-10 metres CW, SSB and RTTY. Also plans to operate EME. Hopefully he will also go and operate from IOTA group AF-076. Further information can be found at http://www.dl3och.de/. QSL via home call, direct or bureau.

- 1/7 CHAD; TT8CF
by F4BQO. He plans to operate CW and SSB on the HF bands. QSL direct to F4BQO.

- 31/8 HONG KONG; VR2/F4BKV AS-006
mainly on PSK31 with some SSB during good propagation openings. His web site is at http://www.f4bkv.net/

|

- 30/9 CROZET ISLANDS; FT5WO AF-008

by F4DYW says he will be working at Alfred Faure Base on Ile de la Possesson. He plans to operate on 20, 15 and 40 metres SSB during his spare time, using 100 watts and dipoles. QSL via home call, direct or bureau. Look for updates on http://f4dyw.free.fr/index.php?langue=fr&contenu=ft5wo.html

- 1/11 ANTARCTICA; VKØBP AN-016

is currently working at Antarctic Davis Base Station, Gridsquare MC81xk. His activity is limited due to his workload, but he is expected to be on all HF bands. He seems to like 20 meters between 1500-1800z. Operations have been on SSB and PSK31, but he plans to operate on other modes later on during his stay at the Davis Station. QSL via VK2CA. PLEASE NOTE: There is also a possibility of activating other field huts in the area, and he will sign as VK0BP/P. Look for more details on his Web page at http://www.vk0bp.org/

- ca 16/11   LEBANON; OD/W5YFN

has received approval from the local authorities to while in Lebanon, for one year starting on 16 November.

- 2009 WEST MALAYSIA; 9M2TI

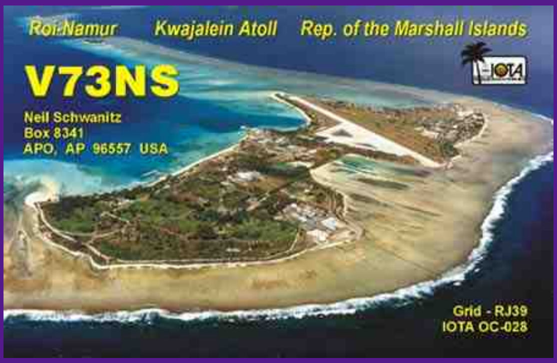
by EA4ATI to work in Kuala Lumpur for the whole year 2009. He will work with 400 watts and a vertical in CW and SSB on 40m/20m/15m/10m. He also plans to take part in all major contests (if possible from stations better equipped). QSL via EA4ATI.

- 31/10 2010   CANADA; VA7PX NA-075

from Mayne Island. QSL via VE7AXU via bureau or direct.

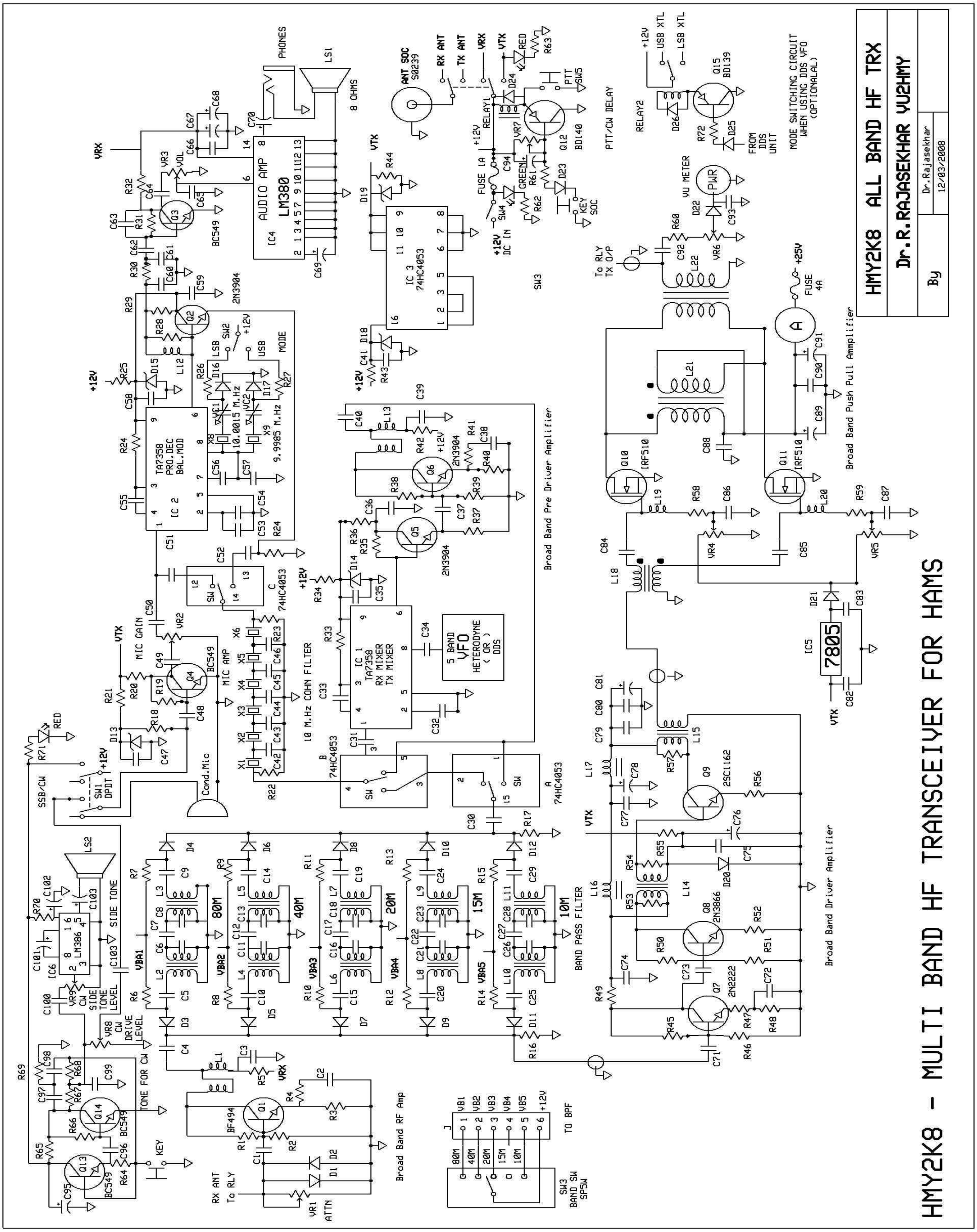
- 2010 MARSHALL ISLANDS; V73NS OC-028

from the Kwajalein atoll by WD8CRT, who will have to work here for two years starting on Jan 5, 2009. He will work mostly in CW on 160-6m. QSL via bureau or direct to Neil Schwanitz, PO Box 8341, APO, AP 96557, USA. His website is http://www.qsl.net/v73ns/



Back to the HMY-2K8 - Multiband HF transceiver
By Dr. R. RAJASEKHAR, VU2HMY

In the latest issue # 4, April 2009, the circuit diagram in the article on HMY-2K8 Multiband transeiver was missing. Find it below.



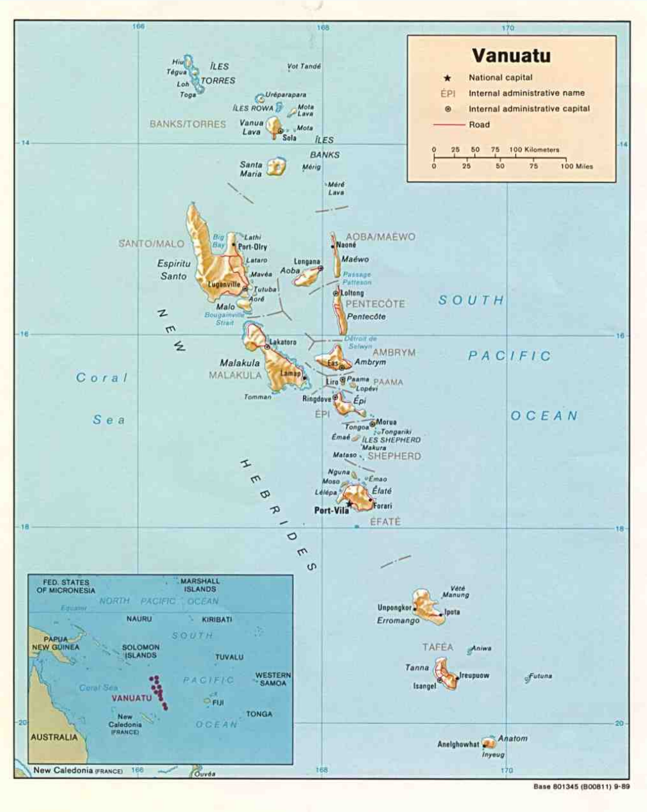
CQ Contest de YJ0AX

When a young Lieutenant James Michener wrote “Tales of the South Pacific” he was based at a US base on the Vanuatu island of Espiritu Santo. When the teleplay “McHale’s Navy” was penned, the island Taratupa was in what is now known as Vanuatu. When I first thought of the most diverse culture in the South Pacific I immediately thought of Vanuatu. Like standing under a shower in the morning and letting the day flow over you the culture of Vanuatu runs over your senses in a way that could only happen in the South Pacific.

My wife Lorraine and I had long wanted to celebrate our twentieth wedding anniversary somewhere really special. Thankfully, my knowledge of geography was deemed to be of use in selecting the location of our dream trip, and after negotiation, it was decided that the trip would be to one of the Pacific Islands. The process of selection of Vanuatu was really one of logistics - many of the flights to the various islands do not interconnect well, and unwary travellers might find themself stranded on a remote Pacific island for up to a week between departures.

In my research for a holiday location the criteria was simple - easy access from Australia, an interesting culture, accommodation that my children would enjoy, and a good radio location for competition in the Oceania DX contest. It had been twenty-four years since my last contest expedition (VK2NDK/VK9L) and the urge to compete was as strong as always.

Vanuatu has enjoyed much recent publicity, with Survivor’s current episode based on Efate, the main island of the group. With a new airline offering cheaper flights to the island, group tourism is on the way up.



Old US Naval personnel once based at Havannah Harbour on the northern side of Efate may have their memories dimmed, but many of the scenes on the current series of Survivor are filmed at a location where, during World War Two, up to 100 ships at a time were anchored. The jungle has long since overgrown the base.

Originally sent to the wrong resort owing to booking problems, we stayed one night at Le Meridien and then on to Le Lagon late on Saturday. The poor old FT990 did not fare well in transit - the front panel was damaged. Apparently “fragile” in some language translates to place under Mack truck gently! I had no display, but had planned to use the computer interface anyway, thank goodness. The clarifier was intermittent , and there were no filters at all for CW. In fact, the receiver seemed to be even wider than ordinary SSB, and very easily overloaded, but I will work that one out when I fix the rig. The front PC board and display were both broken. SSB was usable, RTTY a write off and CW was very tough going.

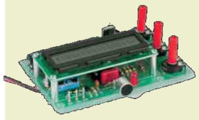
Got the antenna up with one hour to go. Not lagoon-front as promised but higher up which made grounding difficult. Coral makes a very poor RF conductor! 40 metres was particularly bad, and I gave up at 10:00 local due to lack of contacts. Next morning at 11:00 am I tracked down the resort plumber and got some pipe from him to raise the aerial to around 4 metres. This improved the performance no end, and I finished the contest with just over 100K points from 300 QSO’s. Realistically, that should have been 1000 QSO’s minimum but that's life. The rest of the week we operated intermittently as the wife reckoned we were there for a wedding anniversary. I made the decision to operate CW to get more bang for my buck in terms of output, as the RF speech processor was creating hum on SSB. Initially, I thought it might be earth loops, but realised that it was trauma-related when the fault proceeded to come and go. Had my variable transformer filters in out and over the line with no effect.

CW was an experience as the last real CW bash I did was Lord Howe in 1979 in the VK/ZL, never having been a real fan of the mode. As previously mentioned, owing to the wedding anniversary negotiations, I did not intend to operate the CW weekend. I was ‘devastated’ to wake up Sunday morning and find it bucketing down!
"Gee, Lorraine, what in the world could we do today?"
" Why don’t you use the radio - it’s not a good day to go anywhere" she replied. No wonder I love this woman!
I started around 10:00 am local time and finished with around 50K and 200 QSO’s. My best DX was OH6 on ten metres – who says the upper HF bands are dead? I worked all continents on 40 through 10 metres, and found the most unbelievable multi-multi site at the Beachcomber Resort 80 km north of Port Vila. The resort owner is an ex-CB’er, happy to have DX’ers share his paradise. Absolute beach front with uninterrupted views to USA, JA and EU at almost the same location as Quoin.

The local language is known as Bislama and is basically English and a small smattering of French and local tribal words. After dealing with the locals for a week I gained the impression the “no”, or “I don’t know” is not a part of their vocabulary. Every answer seemed to be “yes”, which caused no end of confusion until I realised that “yes” could have eight different meanings. For example, I need a Citibank ATM:
“Excuse me, is there a Citibank ATM down here?” “Yes, not far now.”
Walk 100 metres and ask the next person. “Excuse me, is there a Citibank ATM down here?” “Yes, not far now.”
At this point, the local shopkeeper is asked “Excuse me, is there a Citibank ATM down here?” “Yes, not far now.”
By now, I am at the end of the main road in Port Vila. An Australian style hotel looms up ahead. I ask there: “Excuse me, is there a Citibank ATM down here?” “CITIBANK?
Gee, Mate yer out of luck. There are no Citibank ATMs in Port Vila - try the ANZ Bank.”
BUT?? The vagaries of Bislama and the local customs were starting to unfold.

“*Ol trak ia oli bararap”*
The trucks are broken down

De YJ0AX, a.k.a. Trent Sampson, VK4TI
Tnx DDRC ink



A PIC16F84 based CW Decoder
By IK3OIL

The project in few words

I propose a simple CW decoder wich makes use of a PIC16F84 microprocessor with a 16x2 chars LCD display. It is equipped with an audio frequency input from your receiver, an input for a stright key and an audio output locked to the input signal. It automatically adapts itself to the CW rate and may be employed for learning purpose substituting the traditional tone generator and offering the capability of displaying the keyed code.

Introduction

This project arises from a twofold need connected with CW learning, first of all to enance the performance of the traditional oscillator providing it with a display on wich you can verify the correctness of your keying, and then the need to have an instrument you can couple to the receiver so as to help those who, being still novices, are in a great trouble trying to deal with their early CW QSOs.
However it should be clear that, in my opinion, neither this device can substitute the ear’s and brain’s interpretation capability nor other similar instruments can do that. At the most they can help in quickening the code learning.
The decoding capabilities are essentially connected to the received signal quality, it must by clear and strong enough, so don't think you can decode a weak and vanishing signal in the QRM, if this is your goal, you should much better make use of your ears. If however the signal is good and stable enough, then this equipment can succeed in doing its job well, adapting also itself to the CW rate, provided that it is sufficiently regular.

Specifications

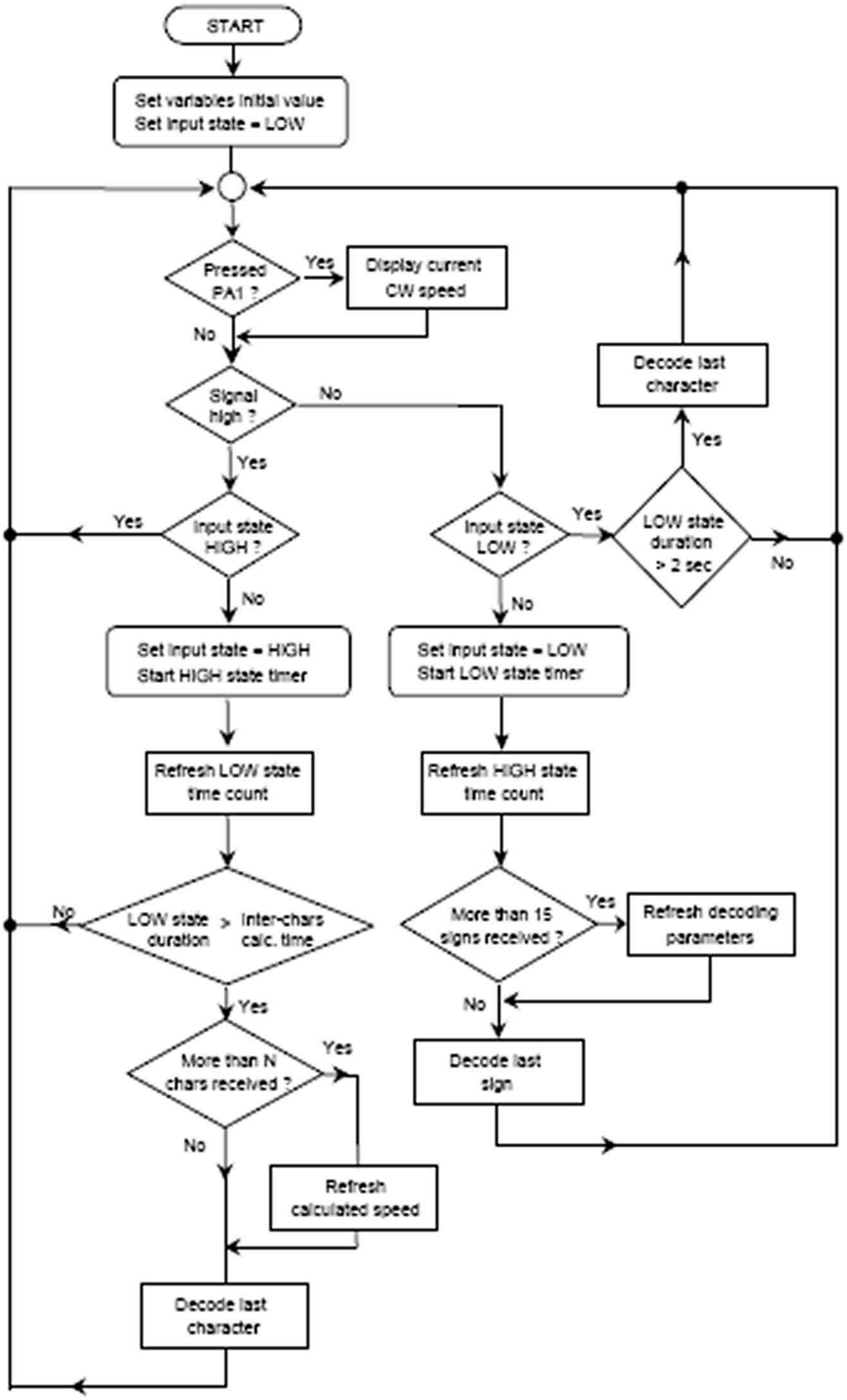
The device is equipped with a 2x16 LCD display , the text shifts from left to the right starting from the end of the second raw. An inter-words automatic spacing function is provided, based on a regular timing of the pauses in the sent code. This function may be inhibited grounding the J pin if the device is used for training purpose or while receiving an improperly sent code. The audio input must be at least 100 mV pp, a clipper is provided to cut large signals. The band width is about 100 Hz and the center frequency may be adjusted between 700 and 1000 Hz by a trimmer. A service push button (P1) displays the keying rate in chars/min, this measure is refreshed every N received characters (N is a settable software parameter). An input is provided for a straight Key, and both inputs (audio and key) activate the code display and the audio monitor function, a LED is operative while receiving code and shows the correct lock to the audio input, these two monitoring functions are very helpful to adjust the receiver tune because of the narrow bandwith of the decoder. The BF monitor can drive a 32 Ohm earphone with the two sides series connected. The Vcc can be supplied by a 9V transistor battery and requires about 15 mA. An external supply (min 9V) is however recommended for long time use. When powered on, the microprocessor is setted for an intermediate keying rate, some characters may be therefore required to reach the lock with the received signal if it is very slow or very fast.

The Decoder Software

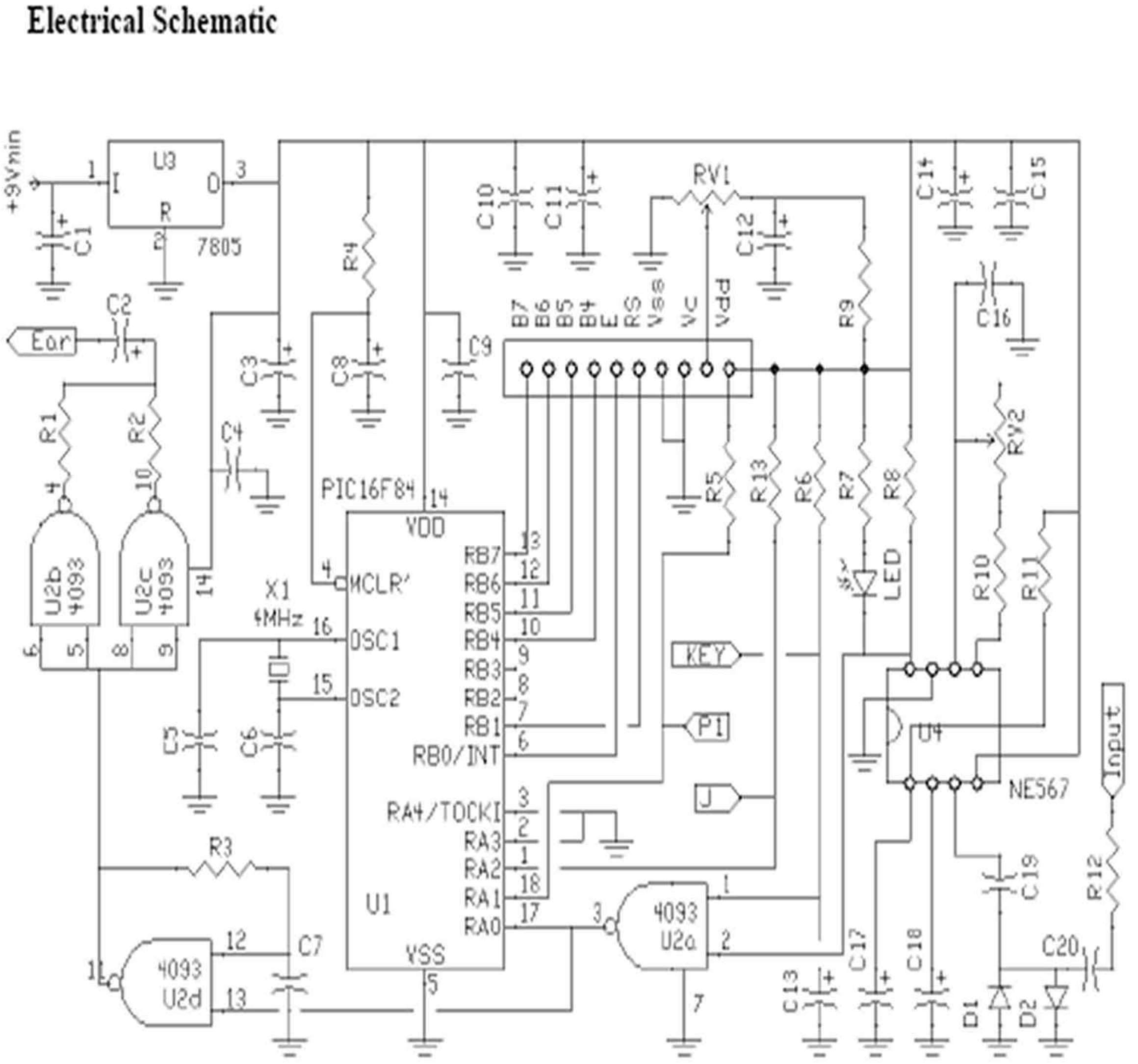
The software I developed makes use of the assembler PIC16 language and run on a PIC16F84 microprocessor. It takes a measurement of the received signal ON and OFF time, obtains some statistical mean values, and calculates three parameters wich are then used for decoding :

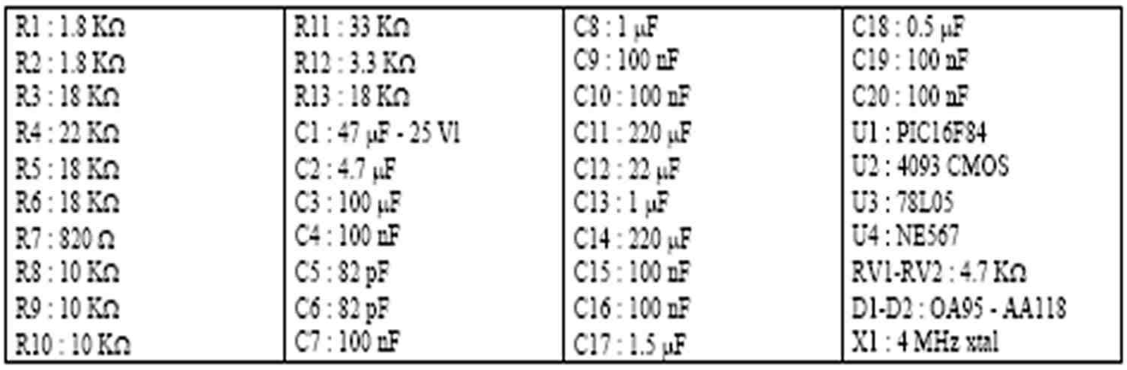
- Mean length of the dit/dash cycle
- Mean length of the inter-characters pause
- Mean length of the inter-words pause

A flow chart of the program (macro level) is listed below



Electrical Schematic





R1 : 1.8 KΩ	R11 : 33 KΩ	C8 : 1 µF	C18 : 0.5 µF
R2 : 1.8 KΩ	R12 : 3.3 KΩ	C9 : 100 nF	C19 : 100 nF
R3 : 18 KΩ	R13 : 18 KΩ	C10 : 100 nF	C20 : 100 nF
R4 : 22 KΩ	C1 : 47 µF - 25 Vl	C11 : 220 µF	U1 : PIC16F84
R5 : 18 KΩ	C2 : 4.7 µF	C12 : 22 µF	U2 : 4093 CMOS
R6 : 18 KΩ	C3 : 100 µF	C13 : 1 µF	U3 : 78L05
R7 : 820 Ω	C4 : 100 nF	C14 : 220 µF	U4 : NE567
R8 : 10 KΩ	C5 : 82 pF	C15 : 100 nF	RV1-RV2 : 4.7 KΩ
R9 : 10 KΩ	C6 : 82 pF	C16 : 100 nF	D1-D2 : OA95 - AA118
R10 : 10 KΩ	C7 : 100 nF	C17 : 1.5 µF	X1 : 4 MHz xtal

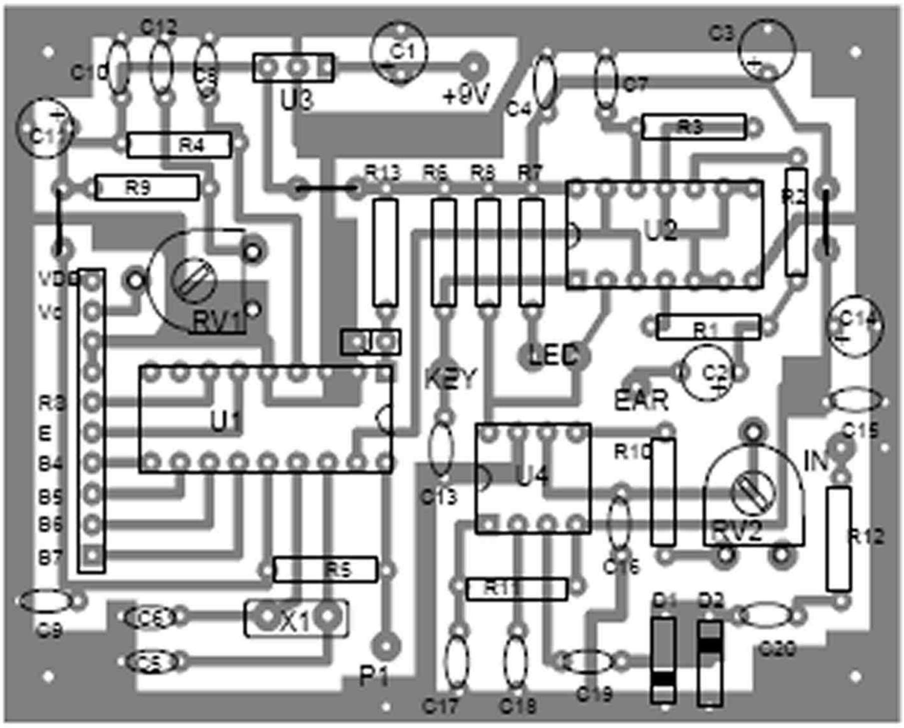
The schematic appears very simple, actually almost all of the functions are performed by the microprocessor software, while an NE567 tone decoder takes charge of processing the audio input signal. This IC contains a PLL circuit whose lock frequency may be adjusted between 700 and 1000 Hz by the RV2 trimmer.

With the listed component values it is obtained a band width of about 100 Hz. The minimum accepted input signal amplitude is 100 mV pp and its time duration would be at least 20 mS. The PLL measured lock delay is about 10 mS.

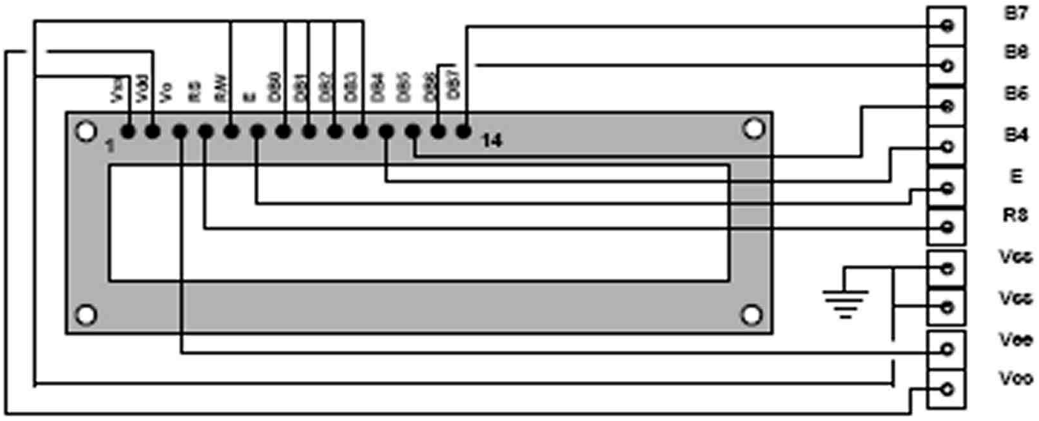
A clipper is provided to limit the input signal amplitude, it is obtained by 2 germanium diodes (OA95, AA118, …. not critical).

A LED is connected to the pin 8 of the PLL to show the correct frequency lock. The same pin 8 drives one gate (pin 2) of the CMOS trigger NAND 4093 whose output (pin 3) is connected both to the microprocessor PA0 gate and to a second CMOS gate (pin 13) working as an audio generator. The remaining two 4093 gates are used to implement a buffer capable of driving a medium impedance load (64 Ohm).
A 78L05 regulator supplies both the decoder module and the LCD display, the RV1 trimmer is used to adjust the display brightness. The only required tuning is an RV2 trimmer adjustment so as to obtain the best frequency lock using an input CW signal strong and clear from your receiver

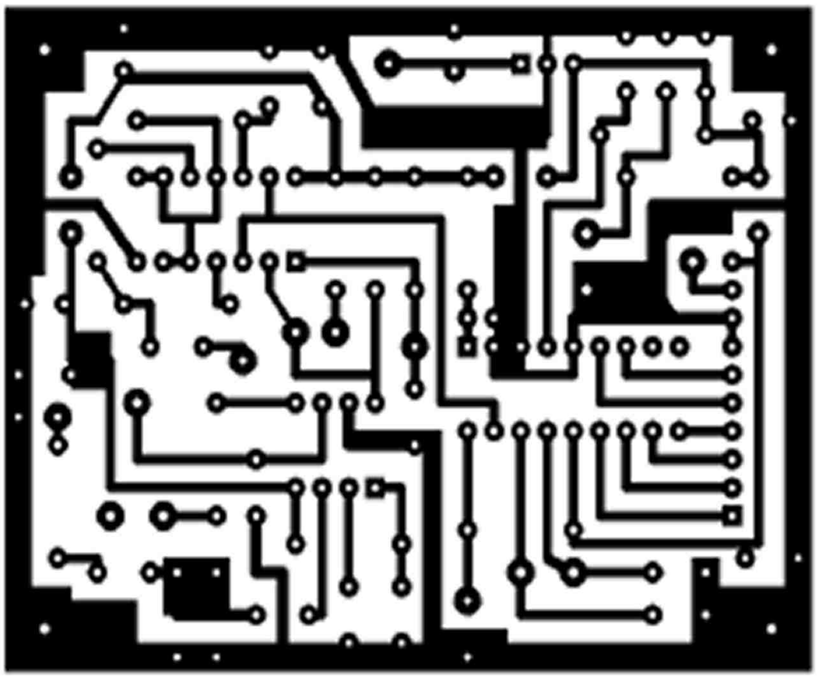
Component Layout



The whole circuit is mounted on a 60x80 mm PCB board. It is recommended to make use of small sized components (ceramic multilayers capacitors, low voltage electrolitics, …) so as to make easier the assembling. The LCD display is connected by a 10 pole flat cable soldered to 2.54 mm standard connectors, as shown below



PCB board



The PIC16F84 development tool

You may find several commercial development tools for the PIC16F84 micro (see for example the Microchip Starter Kits). However if you are interested in a low cost solution, you can download from the Microchip WEB site
http://www.microchip2.com/index.html
the assembler software MPASM
http://www.microchip.com/10/Tools/pTools/MPASM/index.htm
and the simulator MPSIM
http://www.microchip.com/10/Tools/Archive/index.htm
together with the technical documentation. Regarding to the hardware programmer construction, it is easy to find many references on Internet (I'll be glad to provide some informations). You can download a shareware version of the CIRCAD software from the Holophase WEB site http://www.holophase.com/

Final notes

No particular difficulty should arise in the realization, neither in the finding of the components nor in the assembling of the decoder. If you are interested in obtaining more informations, a copy of the PIC software or the CIRCAD PCB files, you may contact me at my E-mail box : ik3oil@arrl.net

Best 73s IK1OIL

A Double Quad Antenna for 1296 MHz
By DL5NEG

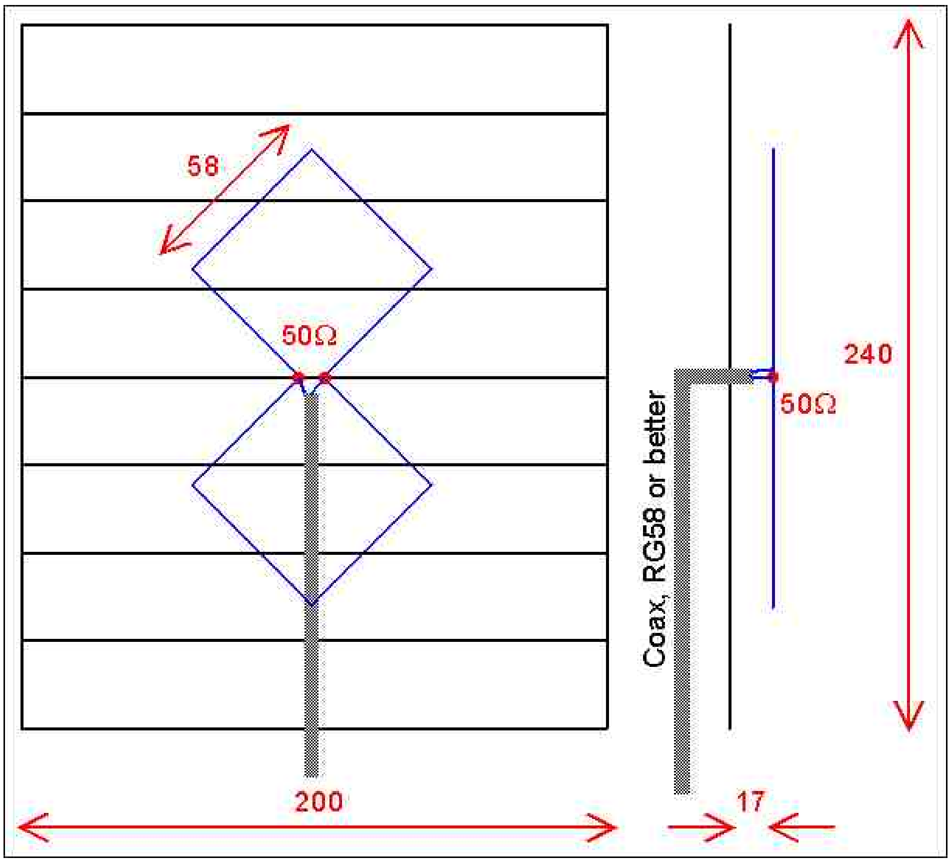
This antenna is a medium gain directional antenna for mobile (portable) and base station use. I have built it many years ago for mobile operation to check out how good the signal of the ATV Relais DB0SCS is received in the villages around Schwabach (the QTH of the Relais). I found a similar type for 432 MHz in the literature and decided to calculate the dimensions for 1296 MHz. For the 432 MHz antenna a gain of more then 10dBd was mentioned. This seems reasonable for the size of the antenna. I was always satisfied with the antenna and a direct comparison to other antennas of a know gain showed that it really has to a have a gain of about 10dB over a dipole.

This antenna type has a number of advantages over a yagi antenna with the same gain:

- It is easy to build, the size of the driven element is not highly critical
- An optimal VSWR can be achieved by varying the distance to the reflector
- Due to the geometry the antenna can be handled more easily at mobile or portable operation
- Just like for a quad antenna for short wave, a balun is not absolutely necessary
- The antenna covers a wider frequency range than an average yagi

Now have a look at this plan. All sizes are in mm. The antenna is made of copper wire with 1mm diameter (not highly critical). I leave it to your fantasy how to fix the reflector to the driven element. (I soldered it together via two 1 Megaohms resistors and put a bunch of liquid plastic over it.) I is even ok to solder it together without insulation at the top and bottom of the driven element since this are the points of maximum current and zero voltage. But due to the fact that we are not using a balun, the current maximum is not exactly at these points so we would short circuit a little bit of the antenna signal.

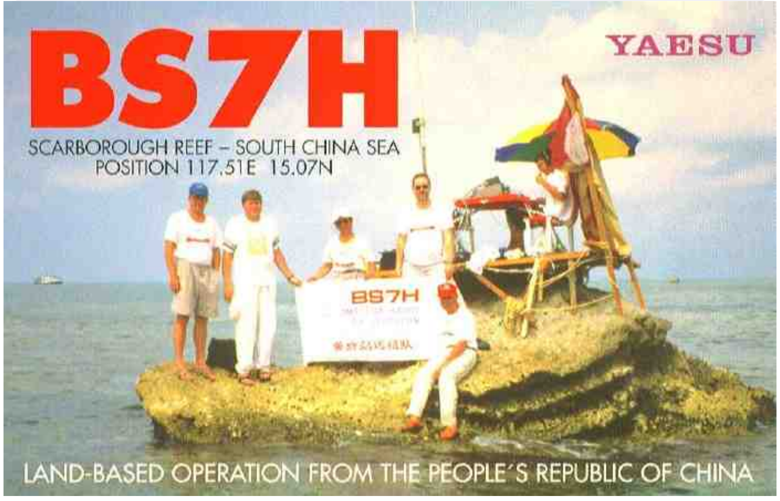
73's DL5NEG



COMIC'S HAM

Have some fun

THE QSL OF THE MONTH



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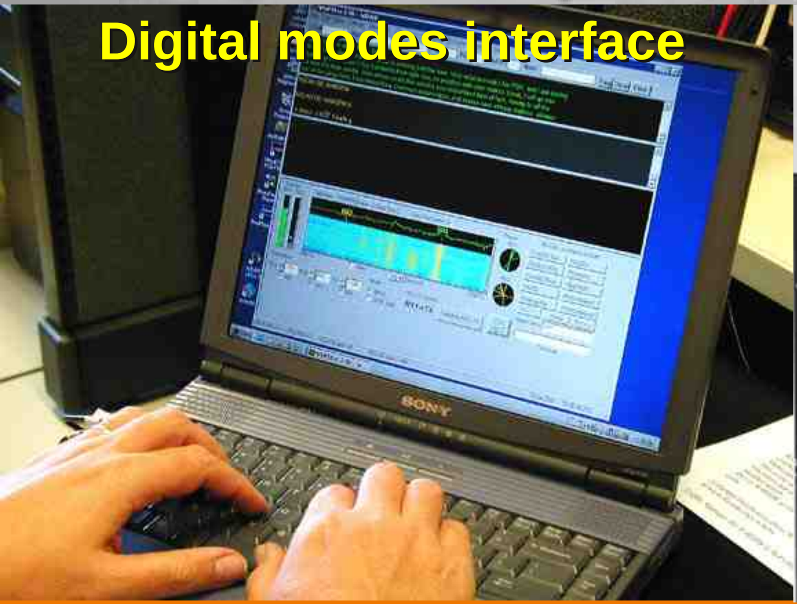
LAND-BASED OPERATION FROM THE PEOPLE´S REPUBLIC OF CHINA

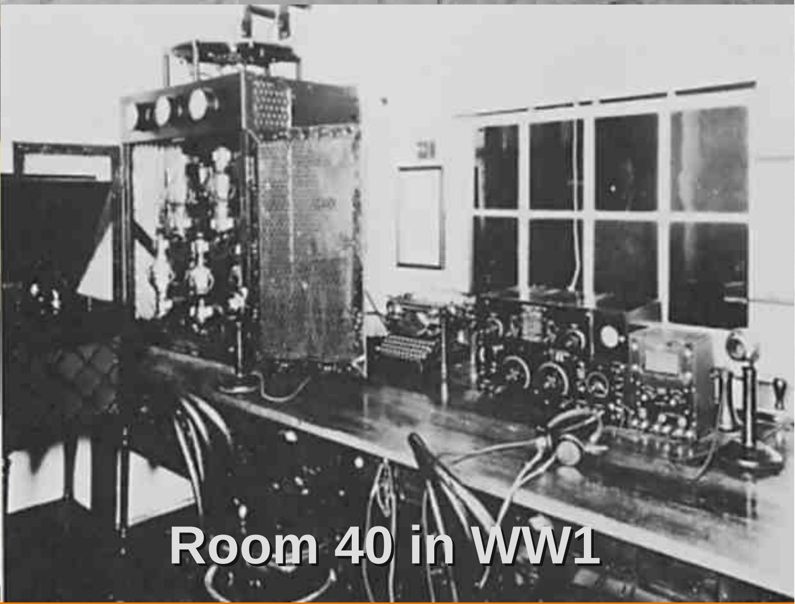
HAM-MAG

The first free & monthly E-magazine for amateur-radio, SWL...

PORTABLE E.M.E
By DL3OCH



Digital modes interface



Room 40 in WW1

NUMBER 2
FREE ISSUE

FEBRUARY 2009
http://www.ham-mag.com

Number two !

Dear YL, dear OM,

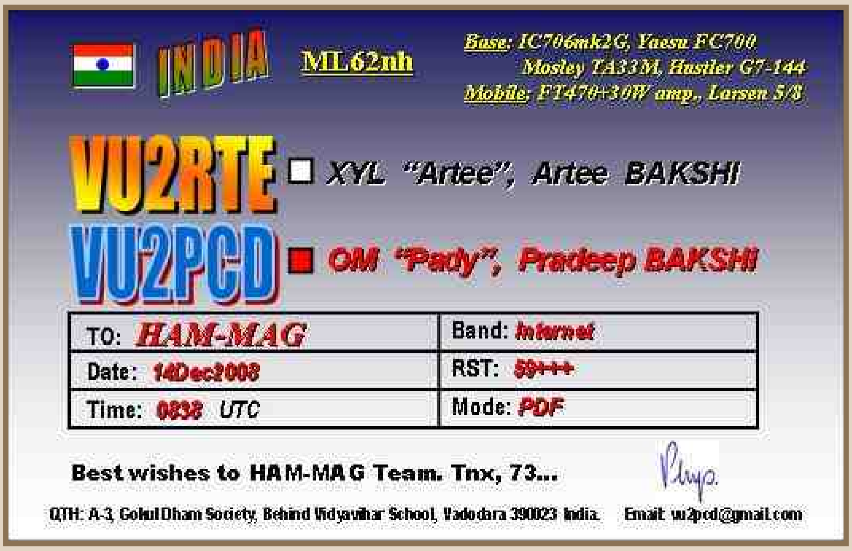
Every day, I receive a lot of E-mail.
E-mail of congratulations, E-mail with informations or articles, E-mail of subscription. Yes, HAM-MAG seems to be appreciated by many operators.
And it's only the begining. 26 pages for the first issue and 41 pages for the second one. 800 subscribers for the first issue and more than 2,700 for the second one.
This magazine is living thanks to you.
Gentlemen who send information, articles, DX-news and so on.
Gentlemen who subscribe and believe in this magazine.
Gentlemen who trust in HAM-MAg and send a donation (and become members of "hall of fame").

Subscribers come from all over the world. From a deep forest of south America to a warm desert of Australia. From a big city in U.S.A. to a foggy village of Scotland. Like the radio waves, this magazine crosses the sea in a few seconds and quietly arrives in your shack without QSB or QRM. This is the very next future and this is purely ecologic.

I'd like to offer more pages, more informations. And that's why your participation is important.
Don't forget, it's your magazine and all informations are welcome. You can send the story of your station, an article about a DX-expedition, activities of your local radio-club, etc.

So... dear YL, dear OM, I hope you'll enjoy this second issue and "rendez-vous" for the number 3!

Best regards and 73's
Vincent FAUCHEUX - F5SLD
HAM-MAG



INDIA ML62nh

Base: IC706mk2G, Yaesu FC700
Mosley TA33M, Hustler G7-144
Mobile: FT470+30W amp., Larsen 5/8

VU2RTE ☐ XYL "Artee", Artee BAKSHI
VU2PCD ■ OM "Pady", Pradeep BAKSHI

TO: HAM-MAG	Band: Internet
Date: 14Dec2008	RST: 59+++
Time: 0838 UTC	Mode: PDF

Best wishes to HAM-MAG Team. Tnx, 73...

QTH: A-3, Gokul Dham Society, Behind Vidyavihar School, Vadodara 390023 India. Email: vu2pcd@gmail.com

HAM MAG N.2
FEBRUARY 2009

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Thanks also to the retailers who believe in this magazine, to all the donators and OM who sent helpful messages.

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ISSN N.1760-6470

The Amateur's Code
By VK3AHT, Geoff

ONE

The Amateur is Considerate. . . He never knowingly uses the air in such a way as to lessen the pleasure of others.

TWO

The Amateur is Loyal. . . He offers his loyalty, encouragement and support to his fellow radio amateurs, his local club and to the their country's national Amateur Organization, through which Amateur Radio is represented.

THREE

The Amateur is Progressive. . . he keeps his station abreast of science. It is well-built and efficient. His operating practice is above reproach.

FOUR

The Amateur is Friendly. . . Slow and patient sending when requested, friendly advice and counsel to the beginner, kindly assistance, cooperation and consideration for the interests of others; these are marks of the amateur spirit.

FIVE

The Amateur is Balanced. . . Radio is his hobby. He never allows it to interfere with any of the duties he owes to his home, his job, his school, or his community.

SIX

The Amateur is Patriotic. . . His knowledge and his station are always ready for the service of his country and his community.

ERRARE HUMANUM EST
- To err is human -
By YO4PX, Francisc

That aphorism by an ancient Roman philosopher contains an unexpressed thought: that man, recognizing his error, can correct it, surpass himself, and approach perfection.

And here is another term, circulated by the operators of rare DX stations who reside in exotic locations and by those who spend time and money on DXpeditions and contest operations. It is "European behaviour," this term is used by our friends across the pond and assumes too much. "European behaviour" negatively characterises the conduct of amateurs from more than 50 European nations, so different in origin, culture, language and temperament, that it is difficult to find for them a common denominator. These operators firmly allege that in most every occasion the much-trumpeted amateur spirit of friendship and international co-operation is forgotten, when arises Hamlet's question, To work or not to work a new one?

No wonder, say those exasperated amateurs, that many DXpeditioners, bored by the silly hodgepodge produced by European operators, prefer to turn their antennas toward the USA or Japan to maintain a reasonable QSO rate.

No wonder many amateurs resident in rare countries, stuck on believing amateur radio is still a hobby, hide on frequencies less monitored by DX'ers or simply go QRT when found and cornered by Europeans. They probably don't feel obligated to devote their leisure time to making thousands of rubber stamp QSOs and filling out thousands of QSL cards, because destiny threw them onto one of the rare islands on the DXCC countries list.

Blinded as we might be by our continental patriotism, we are forced to admit there is quite a lot of truth in the term. If someone compiled a classification of the manners on the amateur bands, he would be forced to put the European countries at the bottom of the list. We would have to console ourselves that YO amateurs aren't distinguished amongst their continental partners by deliberately or accidentally QRM'ing DX stations. The jamming champs are elsewhere, and we DX'ers know them. And, for the most courteous operators we look to Japan. Amidst the mayhem that constitutes "European behaviour" an attentive listener can discern a few, distinctive, types. Risking oversimplification, let's examine these DX'ers. They may occasionally provoke a smile, but too often spoil our fun.

THE MONOLOGIST

Prefers the microphone, but can sometimes be found on CW. He is usually equipped with very reliable and up to date equipment, with which he monitors the bands for his victims. It does not matter too much for him who will be his interlocutors, or what they say to him, he has too little patience to listen. The only role others have is to listen to what he says, despite its lack of content. Hopefully, the Monologist has VOX, so when the victim has nearly fallen asleep, he can save himself by shouting "Break!" and pretend he has to go QRT. After doing this it is recommended the victim does not show on the bands for the next few hours in case the Monologist finds him again. The Monologist type of amateur is not generally interested in DX contacts or QSL cards, but still calls DXpeditions and involves them in long QSO's against their will. The illness of the Monologist is a chronic one, and has to be regarded rather like a natural calamity, which is beating you without any possibility of self-defense.

THE IMPATIENT

I WANT IT NOW!

This one is under continuous strain. He is driven by an unhealthy curiosity. The Impatient posts himself on the DX station's transmitting frequency, despite the operator indicating he is listening up, and then starts to ask questions. He immediately wants to know the DX station's call, his QTH and QSL information, and in the process disturbs everyone trying to work the DX station. With a bit of patience the Impatient could hear the DX station provide this information every 10 or 15 QSOs, and spinning his VFO a bit he would find where others are calling. In nets the Impatient ignores net control's instructions and carries on calling, even though he is not located in the country requested by net control. He calls regardless of the situation, usually in the middle of your QSO. The best expedient, and one not usually advised by DX'ng experts, is to give him the information he wants, accept him, let him join the QSO, put him on the list. Otherwise he may continue to call and cause endless disturbance.

THE OMNISCIENT

This one knows he can teach everybody else. If he thinks an operation is failing he will not hesitate to interfere, nursing and lecturing the ignorant, setting the situation right from his vast store of knowledge and experience. Let's say a novice at working DX dares to ask something on the transmitting frequency of a DX station working split. That is enough for the Omniscient: vigilant and deeply worried about the destiny of the operation, he takes prompt action. He remains on frequency for hours and hours continuously sending or shouting "Up!" to reprimand intruders. His QRM completely covers the DX station and nobody can tell whom the DX station is answering. Despite his well-meaning intentions, one prefers hearing the novice's short questions than the "teacher's" repeated reprimands. There is no remedy for this "helpfulness". Hopefully he will get bored and move on to another crowded spot on the band. Attempts to silence him only redouble his claims of eminence.

THE REVENGER

Tortured by feelings of frustration, by a real inferiority complex. He hasn't learned to be a good loser. Net control didn't call him first? The DX station didn't hear him, or, perhaps, some QRM when he called? That is enough for the Revenger; he switches his transceiver to the tune position and puts an endless carrier on the frequency. Like an incandescent nail it pierces the ears and brains of those digging out the weak DX station with their AF and RF levels at maximum. The Revenger injects various noises into his microphone - ever hear a vacuum cleaner on HF? Some Revengers are music lovers; they love to broadcast piano music on DXpedition frequencies. If you fail to answer the Revenger's call because you want to work DX, and answer a DX station, the Revenger waits for you to finish. Now he wants to work that UA9 you just finished with and if you do not give up the frequency you have occupied for the last hour, a heavy artillery barrage commences. Linear pushed beyond its limits and beam turned in your direction, the Revenger ruthlessly QRMs with a keyer stream or CQ'ing endlessly. In a rage, the Revenger is completely irrational. Dialogue is useless. The only solution is to QSY to another frequency, mode, or, better still, to another band.

THE AGGRESSIVE

In many respects related to the Revenger, but his attacks are direct, often without a call sign, and not under the guise of a CQ and noises.
The Aggressive works with high power, but unfortunately doesn't use it very successfully. He calls desperately, for him the pile-up is a matter of life and death, a place where common sense goes untapped. If other well-equipped operators on frequency dare compete with him, he feels hurt. His reputation and his honour are endangered, and he will defend it his way. Discarding civility, the Aggressive splashes competitors with abuse. Polyglot in this field, he knows how to offend each in their mother tongue and indulges in chauvinist outbursts. He relies on the last word being his, because no one else will degrade himself to reply in like manner.

SUPER-DX-MAN

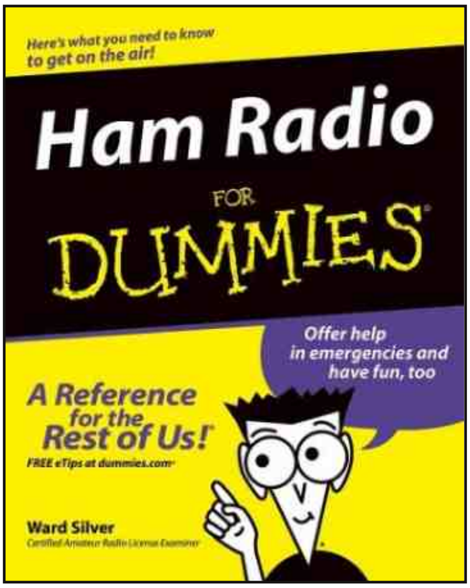
Endowed with the most sophisticated equipment, his linear and antennas are custom made to his pretensions. He usually lives in desert areas so he can surround his house with a thicket of towers and antenna systems, approaching in scale those of a broadcasting station. As he has nothing more to achieve on the higher bands, he indulges in 80 and 160 metres, stretching many thousands of metres of wire in all possible directions. He gives 59+20 dB signal reports to antipodean stations not even heard by others on the band. His signals bend S-meter needles as he breaks the hugest pile-ups, working the DX station on his first call. He doesn't even trouble to give his call sign, simply says, "Hello, Jackie," and Jackie, who is on an uninhabited island in the middle of the Pacific, immediately recognises his voice. Super-DX-Man is on the Honor Roll for ages and has worked everything workable. He doesn't like to chat with amateurs other than Super-DX-Men of his size, if someone else calls him he seems to have corked ears. He ceaselessly wonders how others have the patience to stay in nets for long hours to work a single DX station, as he boasts that not one of his 360 countries has been worked with anyone's help. It seems Super-DX-Man cannot fathom some people struggle to work with 10 watts, stretching out antennas each night, because they haven't permission to erect a poor ground plane on the roof of their flat. He only really becomes annoying when he stops to ask the operator of a DXpedition "What's new on Kingman Reef?" or "How's the weather on Peter I today?"

THE DISCONTENTED

He can be found in the stands of all the sport stadiums. In amateur radio he has a fondness for criticizing DXpeditions. He suffers omniscient kibitzer syndrome: he knows better than the player how the ball should have been passed and how the goal should have been kicked, better than the coach how the team should have been composed, and better than the zebra when a penalty should have been granted.

But a run from one end of the field to the other would bring on convulsions. From his comfortable chair the Discontented ham loudly declaims the DXpedition. He doesn't like the operators (they are lazy, deaf, incompetent); he doesn't like their organization (they didn't turn their antennas toward his QTH when he thinks the opening occurred); the DXpeditioners have materialistic preferences (they worked ten Japanese stations in a row, they requested, "North America only" - Aha, these QSO dealers!!! They want green stamps!!!); they didn't keep their word (starting later and departing earlier than announced). No matter the DXpedition crew assembled and then dismantled 20 antennas in extremes of heat or cold; made tens of thousands of QSOs; slept fitfully in tents; and made their meals from canned goods: all that plus paying, handsomely, for the honour of satisfying the Discontented - this all doesn't matter. If he missed the expedition his verdict is final and irrevocable: they are blunderers. An expedition was a success only if the Discontented got it in his log on nine bands and in all modes.

THE LID


Here's what you need to know to get on the air!
Ham Radio
FOR
DUMMIES
Offer help in emergencies and have fun, too
A Reference for the Rest of Us!
FREE eTips at dummies.com
Ward Silver
Certified Amateur Radio License Examiner

The name given to the amateurs whose working methods leaves much to be desired. Lids are very numerous and often originate from those amateurs who got their licenses without too much trouble, and who did not bother to go through a learning process before getting on the air. The Lid never understands what is happening, tunes up interminably on a DX station's frequency, not because he wants to disturb anybody, but without first checking the frequency.

The Lid doesn't listen before calling CQ, and gives the impression he doesn't have a receiver because he doesn't hear "QSY" from the people he QRMs, nor hears the weak DX station on frequency. He calls the DX station on his transmitting frequency, despite the DX station stating he is listening up, because the Lid doesn't know what "up" means. The Lid calls the DX station when he comes back to someone else, or even while the DX station is transmitting. If the DX station catches a suffix only and states he is only listening for that station you can be sure that some Lids will call, even though their call signs bear absolutely no resemblance to that suffix.

The Lid continues to call the DX station even when the DX station comes back to him, because he doesn't realize it. When he eventually understands he will ask the DX station to repeat his call sign several times. Then he wants all the other details, as he has not heard when the DX station repeated them periodically.

The European Lid answers "CQ DX" calls from other European stations, because he doesn't know what "DX" means. On CW the Lid sends much faster than he can read, causing the other station to send his name and QTH several times, because he refuses to request "QRS." The Lid inadvertently works split, not to keep his frequency clear, but because he doesn't realise his clarifier has to be switched off. The Lid will call you when you are calling in a pile-up, and worse still, will start the contact without waiting to see if you have come back to him, or will end it without knowing whether you have logged him or not. He confuses YO with YA and Bucharest with Budapest. The Lid is able to send CQ 25 times and his call sign only once. The inventiveness of the Lid, in that he does everything upside down, is inconceivable and exhaustless. Now, to end this enumeration, let's try to discern why there are so many Lids on the amateur bands - because we are pretty sure the majority of amateurs branded with "European behaviour" are not Revengers or the Aggressives, but Lids.

Is it human nature to make mistakes? Of course, especially when one is not prepared. It begs the question why the European novice does not learn about on-air procedures before using his new call sign. After passing the examination he shouldn't be left to his own devices to find out about procedures on the air. He should be advised that he should initially listen for 90% of the time to avoid finding himself suddenly in the middle of crowded amateur bands, exposing himself to the risk, unintentionally, of the shame and reputation of a Lid.

It was different aforetime. Long before getting his transmitter license the amateur started by being a short wave listener. For many months he only listened to the contacts of other hams and undoubtedly he enjoyed it, since some amateurs, for some reason, remained SWLs. (Let's not forget those living under dictatorial regimes, who would like to become transmitters and aren't allowed to do it.) Reception was the best school for learning our written and unwritten laws. Then came the day full of excitement for the first QSO made from the club station, under the instructor's attentive guidance, then other contacts, the first DX stations, the participation in contests. And, only when the young amateur accumulated some experience, and he built his own station started to work from home with his own call sign. The Internet offers study and work tools to help get novices on the air while avoiding the epithet "lid." They should use them diligently - knowledge is not innate. Errare humanum est, perseverare diabolicum (To err is human, to persevere is devilish).

This text was published in the Romanian magazine Radiocommunications and Amateur Radio and on the independent website www.radioamator.ro

C.C.C. RADIO & TRUCK ACCESSORIES

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Bedwas, Caerphilly
CF83 8DW
Phone: 029 2086 0042

Fax: 029 2086 0042
Mobile: 07774 159038
Email: mail@cccradio.co.uk
www.cccradio.co.uk

http://www.cccradio.co.uk/

General Coverage Receiver
LW, MW and SW bands
By ON6MU

This is a compact three transistor regenerative general coverage receiver with fixed feedback

It's based on the principle of the ZN414 only much higher coverage. The sensitivity and selectivity is relative good (especially on the LF and MW bands) as can be expected with this "simple" design. The reception on the broadcast bands, LW(longwave) & MW(mediumwave) needs no external antenna! Just a ferrite rod which can be recovered from an old portable MW/LW radio which tuned from approximately 540 - 1600kHz on MW and 140kHz-240kHz for LW. If you find such a radio you'll wont need to make your own coils for those bands.

An AM radio receiver is fundamentally a very simple device. In its simplest form, a resonant circuit builds up a signal if there is one in space at the frequency to which it is tuned. A crystal (galena and cat-whisker) then rectifies the signal, which reproduces the modulation. All the energy comes from the received electromagnetic wave. A good receiver must combine sensitivity and selectivity. Sensitivity is obtained by amplification in several stages, while selectivity is obtained by a narrow bandwidth of the amplifiers. There is a severe problem if the receiver must tune over a reasonable interval, such as the medium-wave broadcast band from 550 kHz to 1.65 MHz. The filters of the several stages of amplification cannot track well enough as their frequency is varied if the bandwidth is narrow, so one must choose between sensitivity and selectivity in such a tuned-RF receiver. There are other problems as well, such as the variation in selectivity as the circuits are tuned over a wide range.

This radio also covers shortwave bands form 2.5Mc up to 24MHz. All shortwave frequencies needs an external antenna. C1 acts as a very simple tuning unit to avoid the receiver being saturated at higher frequencies (shortwave) when using a longwire or any other "large" antenna that isn't resonant. Using a real antenna tuner would be even better... The sensitivity is not as good as on MW and LW though.

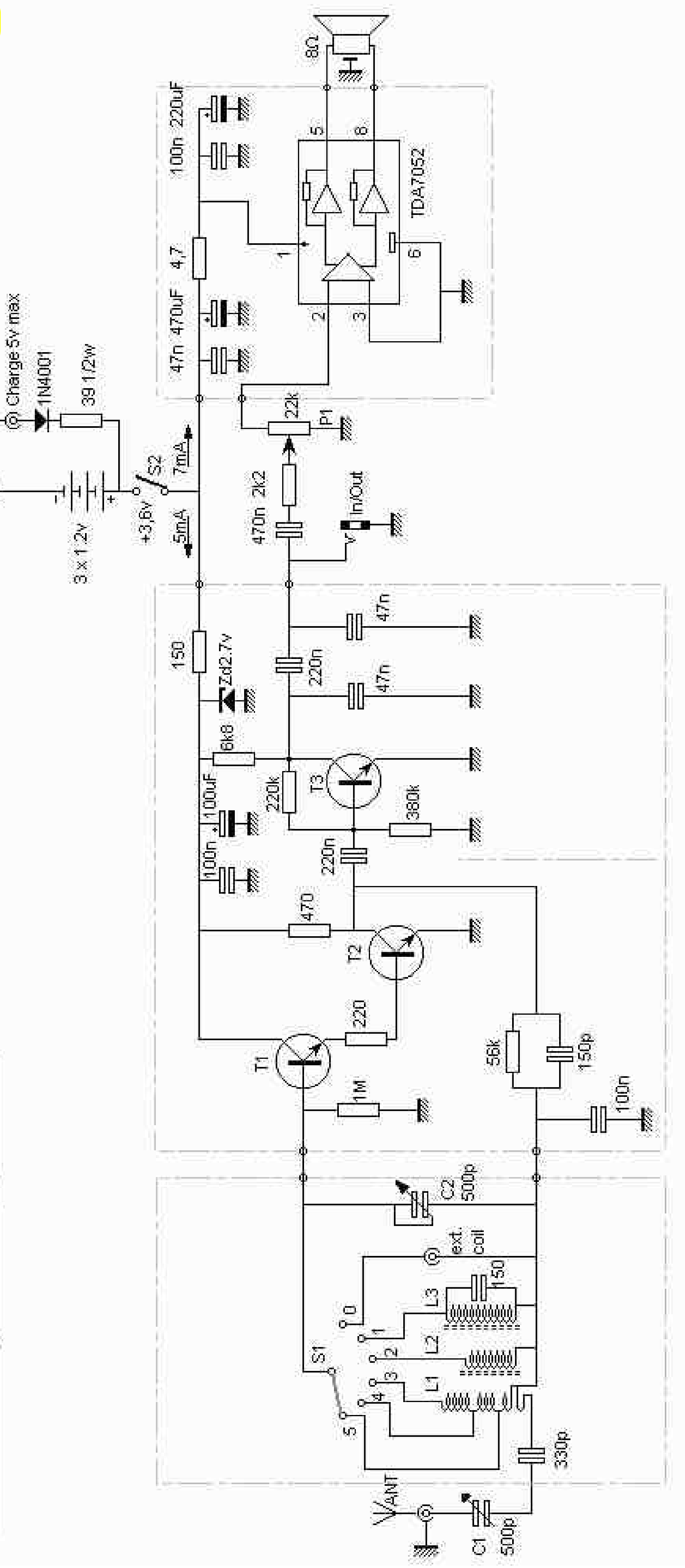
It doesn't need a external power supply as the total current is very low (total 12mA) and can be fed with just 3 (chargeable) batteries.
Transistor T3 has a dual purpose; it performs demodulation of the RF carrier whilst at the same time, amplifying the audio signal. Audio level varies on the strength of the received station but I had typically 10-40 mV. This will directly drive the TDA7052 and drives a 8 Ohm speaker up to 0.5 watt @ 3.6volts.
T1 and T2 form a compund transistor pair featuring high gain and very high input impedance. This is necessary so as not to unduly load the tank circuit. T1 operates in emitter follower, T2 common emitter, self stabilizing bias is via the 56k resistor, the 150pF capacitor and the tuning coil.

P1 set the audio volume.
All connections should be short, a veroboard or tagstrip layout are suitable. The tuning capacitor has fixed and moving plates. The moving plates should be connected to the "cold" end of the tank circuit, this is the base of T1, and the fixed plates to the "hot end" of the coil, the juction of 56k/150p/100n. If connections on the capacitor are reversed, then moving your hand near the capacitor will cause unwanted stability and oscillation.

Switch between the coils (being the frequency bands) with S1. I've put a RCA/Cinch-connector (or better, a BNC-connector) at the band switch to allow experiments with different types of coils for different frequency ranges. The tapping points on the coil allow the set to be tuned to different frequencies by adjusting the position of tap-switch S1.

Frequency coverage
LW : 140 - 240 KHz
MW: 520 -1600 KHz
SW1: 2500 - 6000 KHz
SW2: 5 Mhz - 14 MHz
SW3: 12 MHz - 24 MHz
External coil: use any type of coil for experimental frequency ranges

Schematic



General coverage receiver, by ON6MU

www.qsl.net/on6mu

Details - Coils

L1: total of 37 turns of 0.65mm on a 18mm diameter plastic tube of 30 mm height:
taps at 24 turns, 8 turns, 3 turns, 2 turns
L2: 4 mH, 550 turns on a 9/10mm ferrite rod OR MW 'loopstick' antenna scrapped from an old transistor radio
L3: 310 uH, 65 turns on a 9/10mm ferrite rod OR LW 'loopstick' antenna also 'recycled' from an old transistor radio (both L2 and L3 are on the same ferrite core)

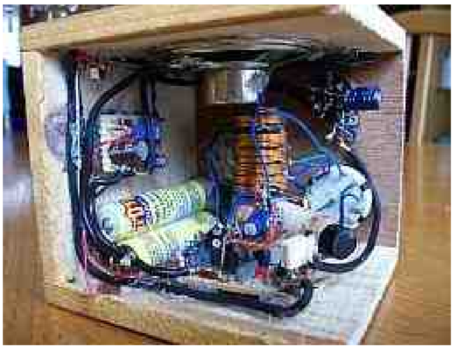
The loopstick antenna coil is best wound on a bit of cardboard or plastic tube around the ferrite rod. The coil can then be slid along the rod to adjust the tuning range. Use this to set the low-frequency end of the band. If you need to set the upper end of the band then place a capacitor across the tuning cap and re-adjust the low end of the band again (in schematic L3 150pF).

S1: 6 position switch
Transistors
T1, T2, T3 = BC547 NPN
Specs
Frequency range: 140 kHz - 24 MHz (LW & MW needs no external antenna)
U = 3...12 volts *Battery or external power operated
3 x 1.2 volt chargeable batteries
I = 12mA @ 3.6volts
Output LF power: 500mW @ 3.6volts, 1Watt @ 12 volts
External coil connector
PL259 connector for external antenna (used for the shortwave bands)
In/OUT connector - used for external LF amplifier, headphone
IN/Out connector - OR can be used as an little LF amplifier (TDA7052) with an LF input source (when SW1 is at position 0 (using no ext.coil)).

The receiver sensetivity and selectivity is more then fair on LW and MW bands. However, the higher you go in frequency (> 2 Mhz) the less sensitivity and selectivity the radio will have. this could be solved by using a selective pre-amp between the shortwave bands (S1: position 3,4,5).

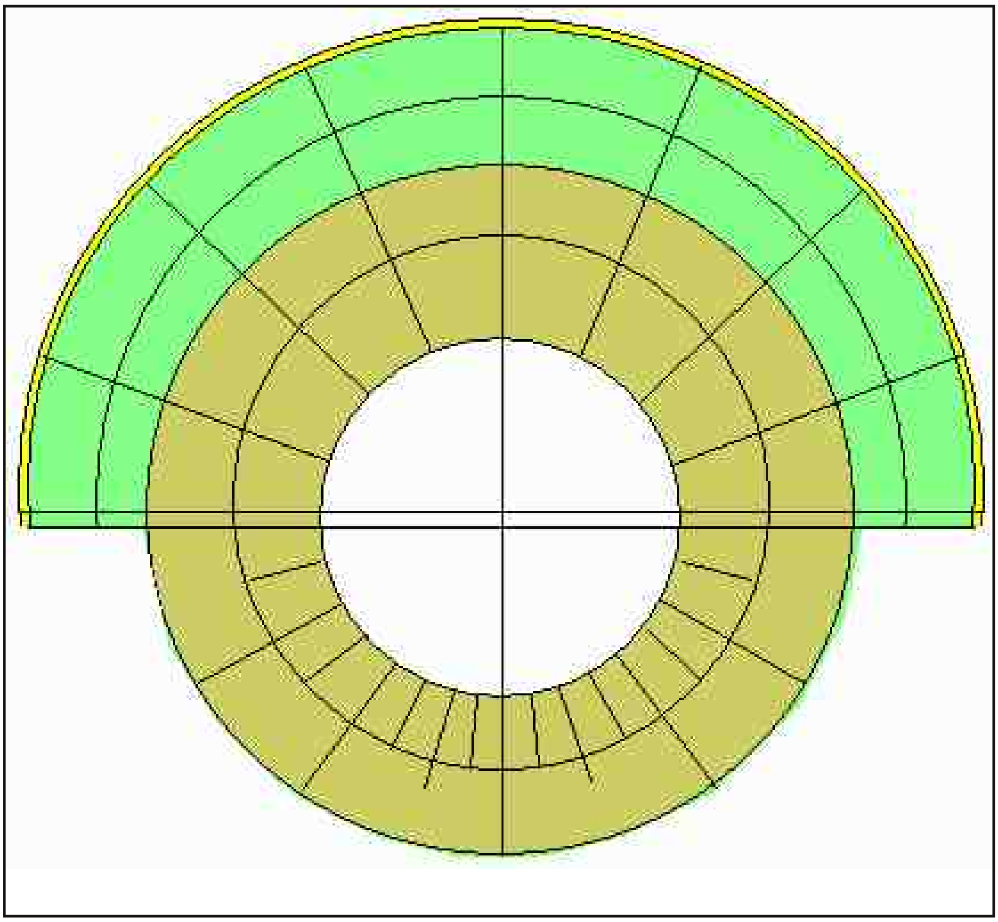
TOP VIEW

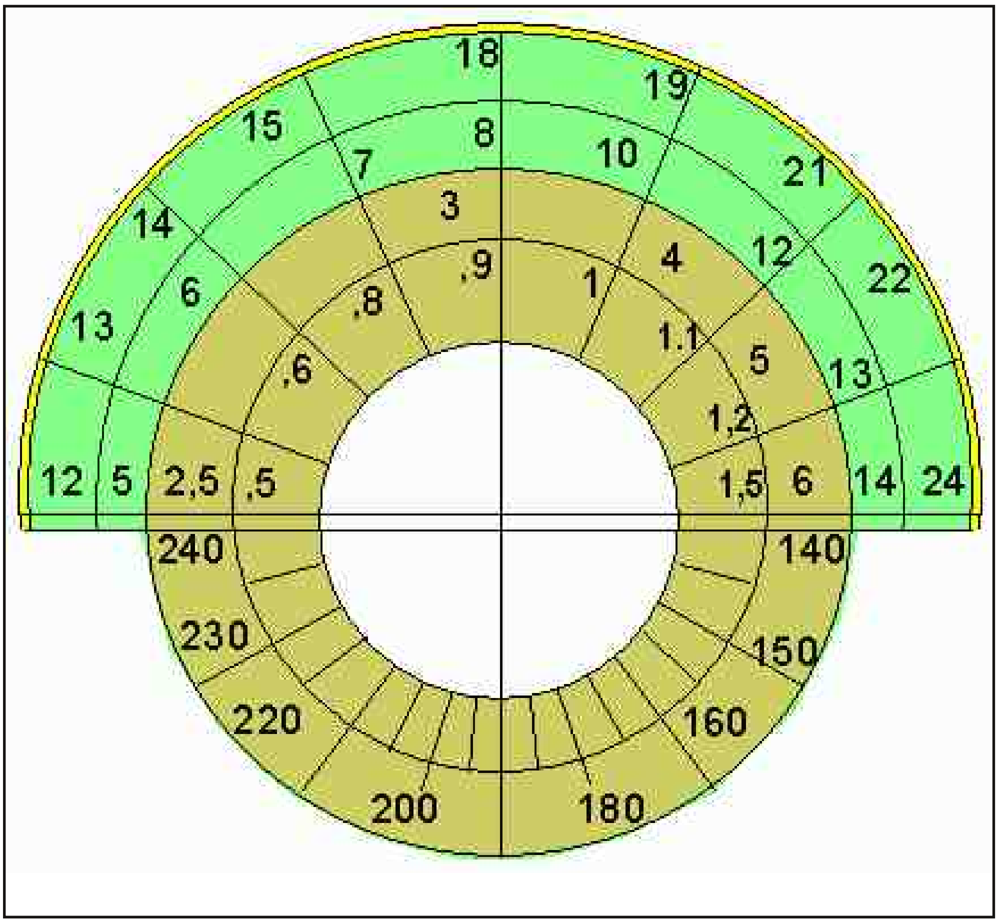
INSIDE VIEW 1



INSIDE VIEW 2

DIAL SCALE

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AM radio is broadcast on several frequency bands:

Long wave is 153–279 kHz; it is not available far into the Western Hemisphere, and European 9 kHz channel spacing is generally used (historically frequencies as high as 413 kHz were used but currently there are no terrestrial LW broadcasters above 279 kHz).

Medium wave is 520–1,610 kHz. In the Americas (ITU region 2) 10 kHz spacing is used; elsewhere it is 9 kHz. ITU region 2 also authorizes the Extended AM broadcast band between 1610 and 1710 kHz.

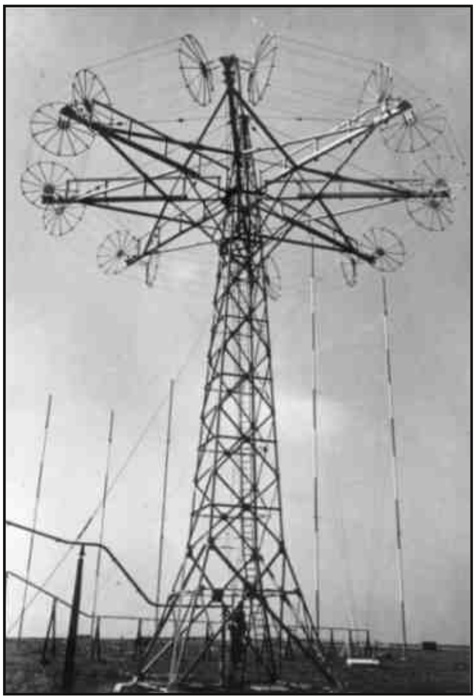
Short wave is 2.3–26.1MHz, divided into 15 broadcast bands. Shortwave broadcasts generally use a narrow 5 kHz channel spacing.

The allocation of these bands is governed by the ITU's Radio Regulations and, on the national level, by each country's telecommunications administration (the FCC in the U.S., for example) subject to international agreements.

Long wave is used for radio broadcasting in Europe, Africa, Oceania and parts of Asia (ITU regions 1 and 3). In the United States and Canada, Bermuda and U.S. territories this band is mainly reserved for aeronautics, though a small section of the band could theoretically be used for microbroadcasting under the United States Part 15 rules. Due to the propagation characteristics of long wave signals, the frequencies are used most effectively in latitudes north of 50°.

Medium wave is by far the most heavily used band for commercial broadcasting. This is the "AM radio" that most people are familiar with.

Short wave is used by audio services intended to be heard at great distances from the transmitting station. The long range of short wave broadcasts comes at the expense of lower audio fidelity. The mode of propagation for short wave is different (see high frequency). AM is used mostly by broadcast services — other shortwave users may use a modified version of AM such as SSB or an AM-compatible version of SSB such as SSB with carrier reinserted. In many parts of the world short wave radio also carries audible, encoded messages of unknown purpose from numbers stations.



Frequencies between the broadcast bands are used for other forms of radio communication, such as baby monitors, walkie talkies, cordless telephones, radio control, "ham" radio, etc.

AM radio signals can be severely disrupted in large urban centres by concrete bridges with metal reinforcements, other Faraday cage structures, tall buildings and sources of radio frequency interference (RFI) and electrical noise, such as electrical motors, fluorescent lights, traffic signals, or lightning. As a result, AM radio in many countries has lost its dominance as a music broadcasting service, and in many cities is now relegated to news, sports, religious and talk radio stations although some musical genres — particularly country, oldies, nostalgia and ethnic/world music — survive on AM, especially in areas where FM frequencies are in short supply or in thinly populated or mountainous areas where FM coverage is poor.

ON6MU

THE DX NEWS

From the Web (tnx opdx, 425 dx news, arrl...)

UGANDA, 5X

Peter, DL8SBQ is QRV as 5X4X from Arua until June. Activity is on 40 to 10 meters SSB. He is active up until 20.00utc each day. QSL via DF5GQ.

GERMANY, DA

Special event station DR09ANT is QRV during 2009 from the Upper Bavaria district for International Polar Year. They are active on as many bands and modes as possible. QSL via DL5MHQ.

THAILAND, HS

Joerg, DL1MJF is QRV as HS0ZGQ from Koh Samui Island, IOTA AS-101, until February 12. QSL to home call.

DOMINICA, J7

Seth, SM0CCM will be QRV as J79XBI until April 1 while on holiday. Activity will be on the HF bands using only SSB. QSL via SM0XBI.

LITHUANIA, LY

To mark the Millennium of Lithuania, a number of club members are QRV with the prefix LY1000 until March 1. Activity is on all bands and modes. QSL via operators' instructions.

TURKEY, TA

Sadao, JA1PBV is QRV as TA7/KI6TIU until February 11. He expects to be active from Cappadocia, Antalya, Izmir and possibly others locations within Turkey as well. QSL to home call.

BERMUDA, VP9

In celebration of the 400th anniversary of the settlement of Bermuda, amateur radio operators here will use the special prefix VP9400 during 2009.

CANADA - SPECIAL PREFIXES

Look for Canadian amateurs to use the following special prefixes between January 1st and February 28th to celebrate the 400th anniversary of Galileo using of optical instruments to inspect the universe. Also, please note that this year is the International Year of Astronomy (IYA). Some Canadian amateurs will exchange their prefixes as follows:
VE changes to CG   VO changes to CH |For example: VE7DAO = CG7DAO
VA changes to CF   VY changes to CI | VA3DAO = CF3DAO
The following are announced operations using the special prefix callsigns for the IYA:
CG3OIJ - Operator Darin, VE3OIJ; on 80m-70cm (WW Loc. FN25EJ). QSL via VE3OIJ, by the Bureau, eQSL or direct to: P. Darin Cowan, 674 Southmore Dr. W, Ottawa, ON K1V 7A1, Canada.), or CG9NC - Paul, VE9NC, from Hampton, New Brunswick; mainly on 20 meters on the Digital modes. QSL via VE9NC.

YE1, INDONESIA

Members of the Bekasi DX Contest Club (YE1ZAT) will be active during the CQWW WPX RTTY Contest (February 14-15th) as a Multi-Single entry and the CQ WW WPX SSB Contest (March 28-29th) as a Multi-Single entry. Operators mentioned are Joz/YD1JZ, Danu/YD1GCL, Terry/YC1KAF, Yon/YB1CCF, Arif/YE1AA and Heri/YB1KAR. QSL via YE1ZAT, by the Bureau, e-QSL or direct (QRZ.com).

3W/XV, VIETNAM

Mike, OM2DX (aka E4/OM2DX, YI9X..etc), is now in Hanoi, and is working for the Embassy of the Slovak Republic. He has obtained a license with the callsigns XV9DX and 3W1M. He is expected to be here the next 3 years and be active on all bands using CW, SSB and the Digi modes. QRNs shown that Mike has been on 40/20/17/15 meters CW this past week. QSL via OM3JW.

FO, FRENCH POLYNESIA

Phil, F5PHW, informs that his 2 year assignment in Tahiti will begin during the summer in August and end in July of 2011. He intends to be active on all HF bands from 80-10 meters mainly on CW and RTTY (possibly some PSK31) with very little SSB using only 100 watts.. QSL via F8BPN, by the Bureau or direct. QSL will also by LoTW.

P4, ARUBA

John, KK9A, will be active as P40A during the ARRL DX SSB Contest (March 7-8th) as a Single-Op/All-Band entry. QSL via WD9DZV.

ZF, CAYMAN ISLANDS (NA-016)

John, K6AM, will be active as ZF2AM during the ARRL DX CW Contest (February 21-22th) as a Single-Op/All-Band/High- Power entry. QSL via K6AM, direct or by the Bureau or LoTW.

ZK2, NIUE (OC-040)

Chris, ZL1CT (GM3WOJ), will be active as ZK2V between May 16th and June 20th. He states that this 5 week DXpedition is not a "Holiday DXpedition" but it aims to give as many stations their first QSO with ZK2 as possible. This is the cyclone season, so operation may be interrupted by electrical storms. Resources are limited, so activity will be mainly on 80/40/20/15 meters using CW and SSB, with some 30/17/12 meter activity and RTTY. Planned operations include entries in the 2009 ARRL CW and Phone Contests. QSL via N3SL. More details will be forthcoming.

# Hogwash For Hamsters: A Light-hearted Look at the Hobby of Amateur Radio by Jerry Spring 111 pages; quality trade paperback (softcover).
A humorous look at the hobby of amateur radio. Included are stories, familiar songs and nursery rhymes, limericks, riddles, and other assorted gems.
Here : http://www.trafford.com/08-1259

# Have a look at the WB6DHW's website. Interesting about the boards, either the 995x or the UHFSDR. Dave - WB6DHW
http://wb6dhw.com

THE DX CALENDAR
BY SM3CVM, Lars
http://www.sk3bg.se/

FEBRUARY 2009

– 3/2 CANARY ISLANDS; EA8/hc AF-004
from Tenerife by ON5JV and ON6AK. Activity will be mainly on 20 and 40 metres during their evenings. QSL via home calls (bureau preferred).

– 5/2 DOMINICAN REPUBLIC; HI7/IZ5JNQ NA-096 NA-122
He also plans to go and operate as HI2/IZ5JNQ from the coastal islands (NA-122) of Saona and Catalina during that time frame.

- 15/2 ANTARCTICA; OP0LE AN-016
from Princess Elizabeth Base and various, but Antarctica mainly by ON3PC. QSL via homecall.

– ca 28/2 IVORY COAST; TU8/F4EGS
by F4EGS in his spare time with a focus on CW and RTTY (and SSB on 160 and 80 metres). QSL via F4EGS, direct or bureau.

– 28/2 CANADA; CG, CF, CH and CI
All radio amateurs in Canada are welcome to use the following special event prefixes. Activity is to commemorates Galileo's first use of an optical telescope and the subsequent discoveries he made in his lifetime. Look for radio amateurs in Canada to use the following prefixes:
VA stations will use the prefix CF
VE stations will use the prefix CG
VO stations will use the prefix CH
VY stations will use the prefix CI
VE9NC will be activating the special event prefix callsign CG9NC. He will be active mainly on 20 meters on the Digital modes throughout this period. QSL via VE9NC.

– Feb MARTINIQUE; FM/F5IRO NA-107
He plans to be active in his spare time, typically after 22 UTC and during the weekends. Expect him to operate CW, digital modes and some SSB on 40, 30 and 20 metres. QSL via home call, direct or bureau.

http://www.asiaradiosales.com

INDIA HAMFIESTA 2009

The Organising Committee of Hamfest India 2009 and BARC Golden Jubilee Year, is happy to announce that it has finalised the following events to be conducted through the year 2009. The events will be conducted and coordinated by the Organising Committee Members.

Sunday, 26 April 2009
Day Fox Hunt in Bangalore

Sat – Sun, 23 and 24 May 2009
HF Contest - Phone/CW

Sat – Sun, 27 and 28 June 2009
Field Day at Nandi Hills

Sunday, 18 July 2009
Quiz on the Air – Activity in Schools

Sat – Sun, 15 and 16 August 2009
International Lighthouse & Lightship Weekend – Mangalore / Cochin

Sunday, 20 Sep 2009
Family Field Day

Sat - Sun, 3 and 4 Oct 2009
VHF Contest

The entry fee for the events, rules & regulations for the contests, etc, will be announced at least one month prior to each of the events. The Winners and participants in these events will be awarded and recognised respectively during Hamfest India 2009 on 7 - 8 November 2009. We also request you to circulate and share this information amongst your members so that we will have participation in big numbers.
More information on www.hamfestindia.com or www.barc.in
73, Ramesh Kumar - VU2LU - Official Correspondent - Organising Committee - HFI 2009

According to the IARU Region 1 Constitution, the new Executive Committee, elected at the 2008 Region 1 Conference.
Details of the new Committee can be found at http://www.iaru-r1.org/EC.htm
Member Societies should note that the new Region 1 President is Hans Blondeel Timmerman, PB2T (hans@blondeeltimmerman.nl) and the new Secretary is Dennis Green, ZS4BS (zs4bs@netactive.co.za).
I would like to take this opportunity of thanking all Member Societies for their support during my six years as Secretary, and wish you all a very Happy New Year. With best wishes for the future. **73, Don Beattie, G3BJ**

By Gary Sawyer W0GDS
Keeping corrosion off your aluminum antenna connects and end pieces that fit inside another connect. When taking these pieces apart have a 2 gal approx 6 liter container of hot water with 2 cups or one-half liter of baking soda thoroughly mixed in the water solution.
Stand the end pieces in the solution for about an hour or until the end is beginning to become brighter. Lightly brush the end piece to free it of any corrosion residue. Once this is bright and dry, apply a generous coat of OX-GARD non-corrosion paste made by Gardner-Denver. This is available in 2 0z or 6 oz tubes. The OX-GARD will enhance the electrical contact between the two pieces joining and will prevent corrosion for many months or years.
This works well and you may even see an improvement in the use of the antenna once it has been cleaned and treated. Contact me at W0GDS@arrl.net for any additional information.
73 Gary W0GDS Dallas TX EM12

4K9W NEEDS YOUR HELP

What was not expected has unfortunately happened which has brought Vlad, 4K9W, into a personally very difficult situation. Certainly many DXer's do not know that Vlad, whom I know for over 20 years, is an invalid for over 30 years, has been bed ridden. Due to this fact he is naturally constantly dependant of respite care.

Now for already 4 weeks, Vlad's mother, who until now took care of Vlad, is dead. So now Vlad is alone without other relatives. At present, his friends and acquaintances from the neighborhood support him. However it is necessary to find a constant home care for him. If this is not possible from own means then the State will be compelled to move Vlad into a home for severely disabled persons in order to guarantee him minimum care to survive.

That would, however, also mean that Vlad, with unsurpassed optimism and joy for life would no longer enjoy different facets of his life: Amateur radio (almost QRV daily and along with CW and SSB also on PSK and RTTY for over a year now), communicating with friends for many years on Amateur radio airwaves, participating in contesting, and also on the internet. It is also expected that Vlad won't be able to take his very large QSL collection with him.

Alone in electronic form there are over 164,000 QSO's logged since the beginning of the 90's.

In the past few days, Vlad and his friends tried to find out how much with certainty his care would cost. The frightening result is that in Baku and the greater area, the cost would be $500-$800 monthly. To complicate matters, Vlad, where he lives, is about 30 km from the town center. However, invalidity pension (of highest classification) that he receives only amounts to $140 from which he must naturally also live (meals, clothes, electricity, and everything else needed).

Last week Vlad arranged an agreement with a woman who lives nearby and was known by him before to take the care duties for about $350. Hopefully she'll be able and ready to do it for a long time.

The complexity of the problem is that Vlad needs montly assistance and the above costs accumulate each month. In principle one could say that this isn't so difficult. For approximately 20 helpful radio amateurs that would mean about $20 per month each. I will try to help him as much as I can, like I always did during all the years but $350 on a monthly basis are too much for me too. Therefor, on behalf of Vlad, 4K9W, I make a call to all to whom his situation matters, to support this project that will keep him active on amateur radio. The most important part of the project is to help support his continued health needs. Naturally are we thankful to one time donors also. Organization for relief to Vlad is planned so that money collected will go directly to the care givers. Thus, it is guaranteed that the support is used for his care by the health providers. I fear that we will soon not hear 4K9W on the air without such support, and without such support he soon looses vital interest in life, even though his life over the past 30 years wasn't the best. For his willpower and desire to live, with over 20 years as his friend, I'm impressed. The translation in other languages and forward to other mail-lists is requested and permitted. A copy would also be nice. Axel Schernikau, DL6KVA dl6kva@darc.de

Website : http://4k9w.oe4vie.com/4k9w_english.html

HISTORY OF RADIO

The importance of Room 40 during World War One

Article from the VK2ATZ club

Naval Intelligence Division to examine intercepted German Radio messages. The sea messages had been intercepted by the stations of the Marconi Company. Sir Alfred quickly realised that valuable information could be gained by reading these messages. Staff were recruited and Room 40 (later designated 1D25) of the Admiralty was established with the task of intercepting and breaking the enemy's messages and codes.

The first intercept station was set up in a Coast Guard Station in Huntstanton with the help of two amateur radio operators: Russel Clarke and B. Hippisley. The number of these stations grew to 14 with all having direct lines to the Admiralry.

In 1914 the codebreakers obtained copies of the German codebooks from captured or destroyed ships. A copy of the Mercantile Signal Book was obtained from Australia while the German Naval Signal Book was obtained from Russia. In April 1915 a copy of the German Diplomatic Code was obtained and another rich source of information had been secured. These books were the basis of breaking and reading coded traffic..

Room 40 was able to give early warning to the British Grand Fleet about the movement of the German Fleet and in early 1915 the first Direction Finding (DF) station was established at Chelmsford. Soon after, other DF stations were set up along the coast of England and Ireland. Room 40 now had another important source of intelligence, as DF stations proved invaluable in the location of German U-boats. In May 1916 Room 40 was instrumental in relaying up-to-date information on the German High Sea Fleet during the battle of Jutland. Unfortunately the information was relayed without comments and proved confusing. This resulted in the information being doubted by the Admiralty and to their detriment was not acted upon.

Although the Battle of Jutland was a victory for the Germans, they were not eager to face the British Fleet. Therefore the Germans began extensive submarine warfare on merchant shipping which resulted in submarine operations becoming top priority for all staff of Room 40. Every scrap of information on the movements and intentions of German submarines became invaluable to the Admiralty. When the Germans changed their codes in 1916, Room 40's DF and interception sections were so experienced that they were able to obtain a good flow of intelligence. More help came from divers who recovered codes from sunken Uboats.

Room 40 was also able to give advanced warning when the Germans sent their Zepplins to drop bombs over England.
Westlakes Amateur Radio Club Inc. Magazine December 2008
In 1917 Room 40 was reorganised, and instead of simply passing decrypted messages, they were combined into intelligence reports. After years of studying the German Fleet, the staff of Room 40 were very knowledgeable and capable of making accurate intelligence assessments.

JOIN WITH GERMANY AND YOU GET A BIT OF UNITED STATES
© Press Publishing Company
SOME PROMISE!
April 191

In early 1917 the cryptographers of Room 40 worked on what was to become the most important message solved during WW I: The Zimmerman Telegram. This message was sent by Zimmerman, the German Secretary of State fro Foreign Affairs. To the German Minister in Mexico. Room 40's solution of the telegraph helped propel the United States into the First World War when it was shown to the President. Following in the text of the famous telegram : "We intend to begin unrestricted submarine warfare on the first of February. We shall endeavour in spite of this to keep the United States neutral. In the event of this not succeeding we shall make Mexico a proposal of alliance on the following basis : Make war together, generous financial support and an understanding on our part that Mexico is to reconquer the lost territory in Texas, New Mexico and Arizona. The settlement detail is left up to you. You will inform the President (of Mexico) of the above most secretly as soon as the outbreak of war with the United States is certain and add the suggestion that he should , on his own initiative invite Japan to immediate adherence and at the same time mediate between Japan and ourselves. Please call the President's attention to the fact that the unrestricted deployment of our submarines now offer the prospect of compelling England to make peace within a few months. Acknowledge receipt. Zimmerman."

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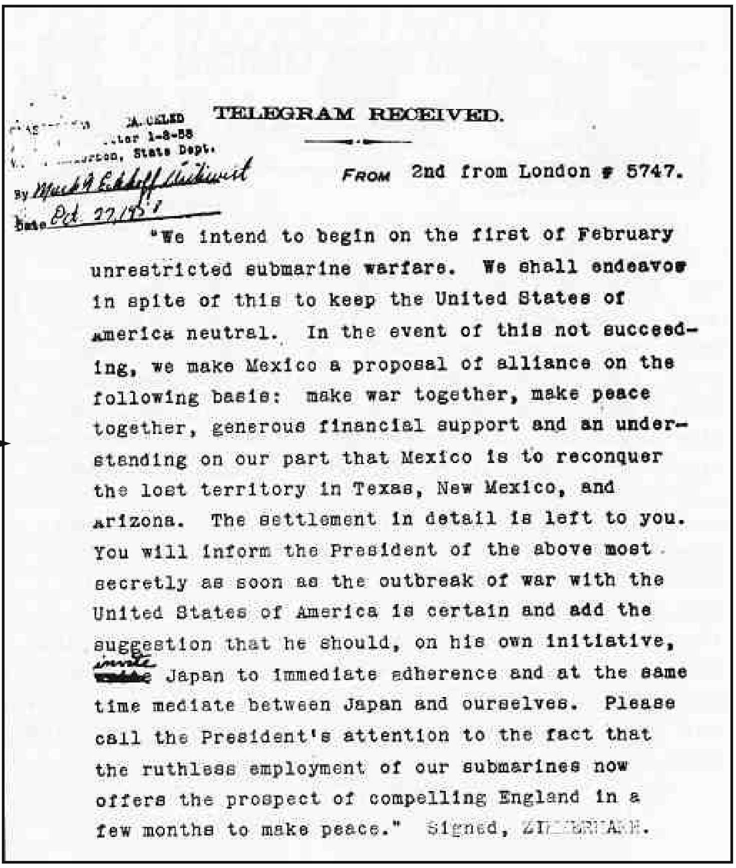
By 1918 the Germans were aware that their communications were being read and adopted methods to prevent the British knowing or guessing the movements of their fleet. But in early November, plain language messages were intercepted indicating that the German Fleet had mutinied and so ended World War One. An important achievement by Room 40 was that after the war, intercepted traffic was used as evidence at trials of spies and saboteurs. It is estimated that from October 1914 to February 1919, Room 40 had intercepted and solved 15,000 German secret messages. Room 40 employed 800 wireless operators and 80 cryptographers and clerks.

Room 40 was taken over by the Foreign Office and became Great Britain's main cryptoanalytic agency. In 1939 the Foreign Office moved its Department of Communications to Bletchley Park, about 50miles north of London and that where Ultra Secret and a man called Intrepid come in, But that's another story...

World Radio January 1991

The Zimmerman telegram



[illegible] A.CLLED
[illegible] tor 1-8-58
[illegible] ton, State Dept.
By
Date Oct 22/19[illegible]

TELEGRAM RECEIVED.

FROM 2nd from London # 5747.

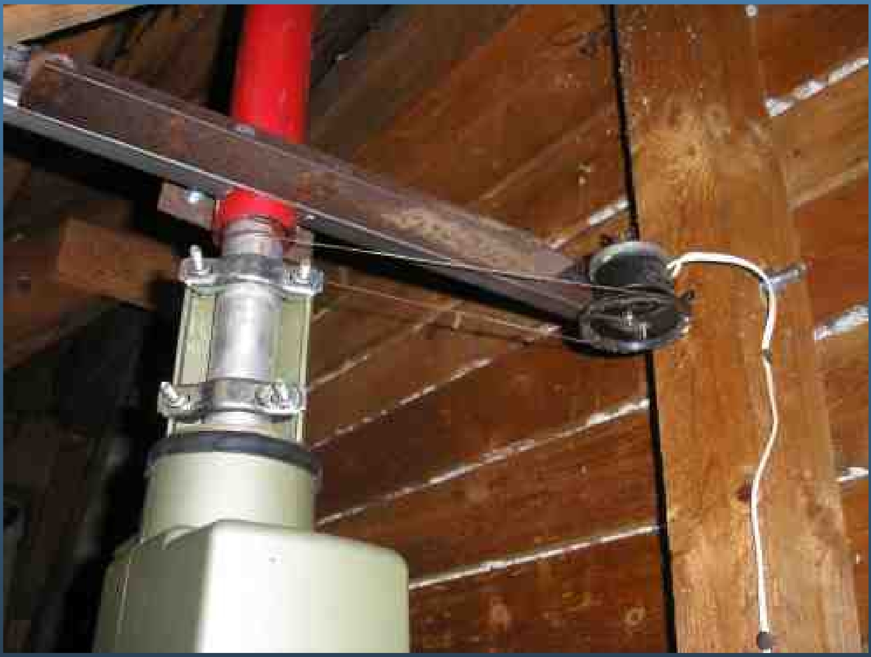
"We intend to begin on the first of February unrestricted submarine warfare. We shall endeavor in spite of this to keep the United States of America neutral. In the event of this not succeeding, we make Mexico a proposal of alliance on the following basis: make war together, make peace together, generous financial support and an understanding on our part that Mexico is to reconquer the lost territory in Texas, New Mexico, and Arizona. The settlement in detail is left to you. You will inform the President of the above most secretly as soon as the outbreak of war with the United States of America is certain and add the suggestion that he should, on his own initiative, invite Japan to immediate adherence and at the same time mediate between Japan and ourselves. Please call the President's attention to the fact that the ruthless employment of our submarines now offers the prospect of compelling England in a few months to make peace." Signed, ZIMMERMANN.

Antenna azimuth indicator
From Hamportal.net

Are you using a cheap antenna rotator like AR-300? I have three these rotators and on one I have found a difference between the real antenna azimuth and indication. After few hours was the difference 80 degrees. Rotator, especially rotator with a top bearing is constructed well and could be used also with a larger antenna as a HF monoband yagis for higher bands or smaller tribander.

I have developed simple antenna azimuth indicator – aziumth measurement. It's a simple Wheatston's bridge where is used a pot attached to the rotator tube as sensor. Voltmeter is showing directly azimuth in degrees from 0 to 360.

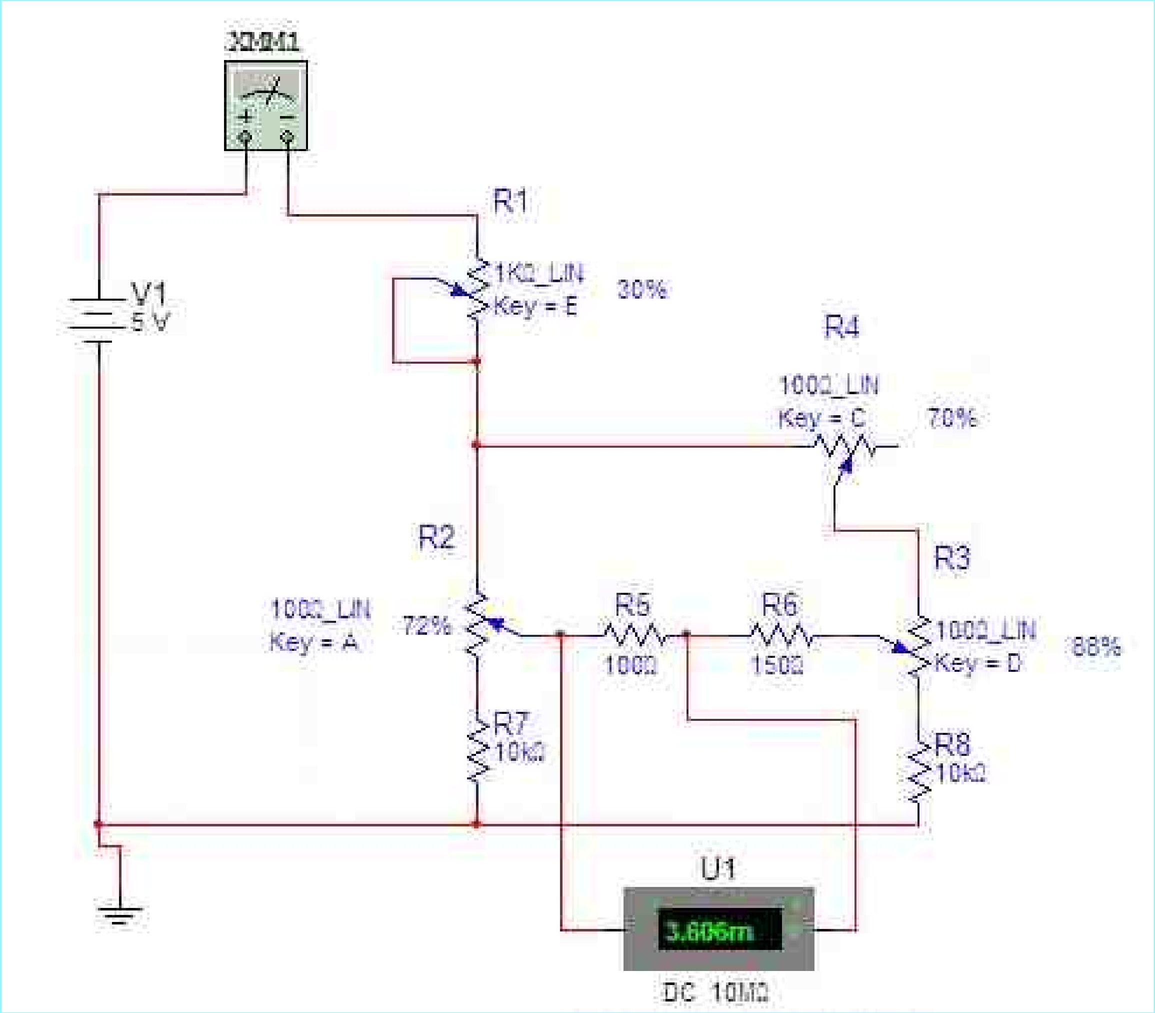
I am using AR-300XL under the roof, so it is easy to join rotator tube with a potenciometer. See the picture below for details. Use a good quality pot. I have used 100 ohms linear Aripot. Used drive transform 360 degrees into the 180 suitable for pot.

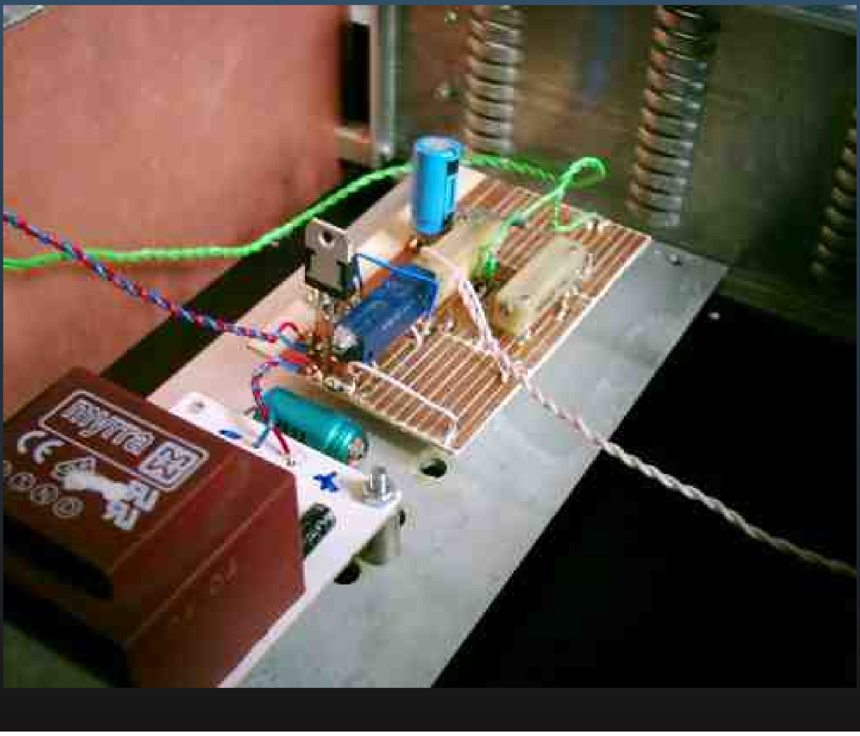


The rotator case isn't fully waterproof but you can still built-in pot if you would like to mount the rotator on the tower. I am recommending to turn the wire from the main gear in the rotator – you got an advantage of the turn more as 360 degrees and avoid the gear breaking.

The Wheatston's bridge is simple. I have used the Electronic WorkBench software to develop the bridge. The schematic diagram is showed with the 5V power supply and output voltage 3,6mV. Potenciometer is marked R4. Other pots are multiturn types – calibration is much easier with them like with cheap pots. Resistors across the bridge were used as a voltage divider. If you would like to have 36mV output, use 12V power supply and connect the voltmeter on the bridge directly (R2 and R3 slides).

The cable from sensor is wound on the ferrite core in the box (three turns or so) as a prevent for RFI.





There are several ways how to display the value from the sensor. Very nice circle azimuth indicator is described on this website : http://dvi.elcom.cz/ok2pbq/prog/ae_map.php
It can be used also the pointer instrument with new scale in degress. I have intend to use a LED voltemeter but I can't found it in the local shop. So I bought a cheap LCD voltmeter module for five euro. If your PC skills are high, you can measure azimuth with computer, e.g. through the serial port.

Also I am recommending to block mechanically azimuth measurement in the control box. Bottom is a hole with bearing. I have put there a small wooden block. You can get an advantage of turning more than 360 degrees and preventing the problems with dead point of the rotator.

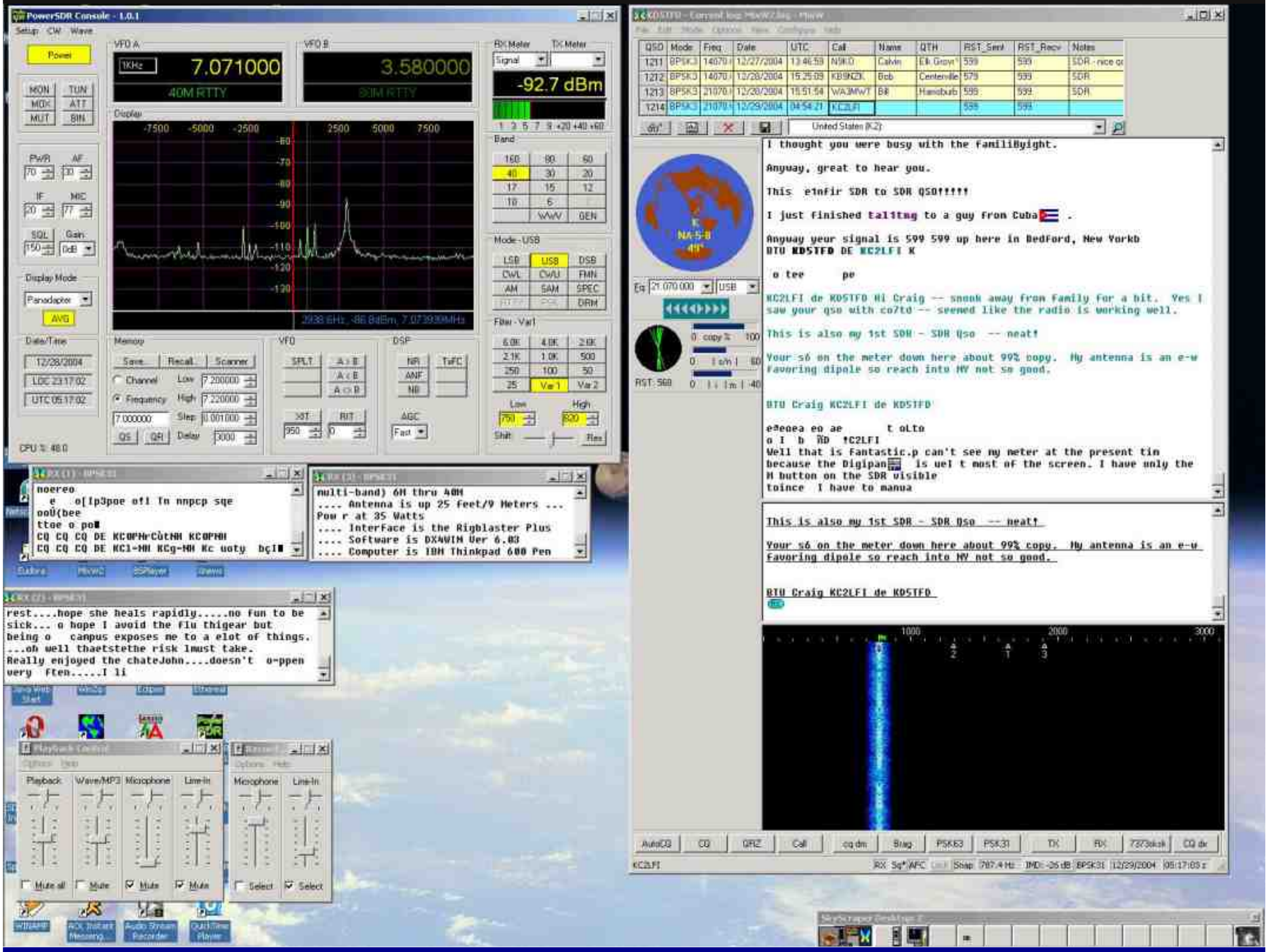
Calibration is a time-consuming procedure. One suggestion – turn antenna on the north and measure with ohmmeter resistance of pot. Build a resistor with this value (use a pot or combination of resistors). Now turn the antenna to 360 degrees, measure again the resitance and build the second resistor.

Now connect to the bridge first resistor and try to make balance with the pots – voltemeter must show zero. Now change it for second resitor and with R1 set on voltemeter 36mV or full scale on the pointer instrument. Check again zero and turn litlle pots – if needed. All post are affecting the bridge so do the calibration again and again until it is zero and 36mV as needed.

See the pictures for construction. I have used a metal box which is also used as stand for control box. In the wind is indicator changing digits frequently, it's OK. Antenna is really moving right and left in the wind. 73's !

A digital modes interface (FSK/AFSK) for sound cards

By IK3QAR



QSO	Mode	Freq	Date	UTC	Call	Name	QTH	RST_Sent	RST_Recv	Notes
1211	BPSK31	14070.	12/27/2004	13:46:59	N9KO	Calvin	Elk Grov'	599	599	SDR - nice q
1212	BPSK31	14070.	12/28/2004	15:25:09	KB9NZK	Bob	Centerville	579	599	SDR
1213	BPSK31	21070.	12/28/2004	15:51:54	WA3MWT	Bill	Hansburb	599	599	SDR
1214	BPSK31	21070.	12/29/2004	04:54:21	KC2LFI			599	599	

```
I thought you were busy with the familiBying.

Anyuay, great to hear you.

This  e1nfir SDR to SDR QSO!!!!!

I just finished tal1tng to a guy from Cuba .

Anyuay your signal is 599 599 up here in Bedford, New Yorkb
BTU KD5TFD DE KC2LFI K

 o tee      pe

KC2LFI de KD5TFD Hi Craig -- snook away from family for a bit.  Yes I
saw your qso with co7td -- seemed like the radio is working well.

This is also my 1st SDR - SDR Qso  -- neat!

Your s6 on the meter down here about 99% bopy.  My antenna is an e-w
favoring dipole so reach into NY not so good.


BTU Craig KC2LFI de KD5TFD

e#eoea eo ae       t oLto
o I  b  ÑD  !C2LFI
Well that is fantastic.p can't see my meter at the present tin
because the Digipan  is uel t most of the screen. I have only the
M button on the SDR visible
toince  I have to manua
```

```
This is also my 1st SDR - SDR Qso  -- neat!

Your s6 on the meter down here about 99% copy.  My antenna is an e-w
favoring dipole so reach into NY not so good.


BTU Craig KC2LFI de KD5TFD
```

```
noereo
  e   o[Ip3poe of1 In nnpcp sqe
ooÙ(bee
ttoe o po
CQ CQ CQ DE KC0PHrCùtNH KC0PHH
CQ CQ CQ DE KC1-NH KCg-NH Kc uoty  bçI
```

```
multi-band) 6M thru 40M
.... Antenna is up 25 Feet/9 Meters ...
Pow r at 35 Watts
.... InterFace is the Rigblaster Plus
.... Software is DX4WIN Ver 6.03
.... Computer is IBM Thinkpad 600 Pen
```

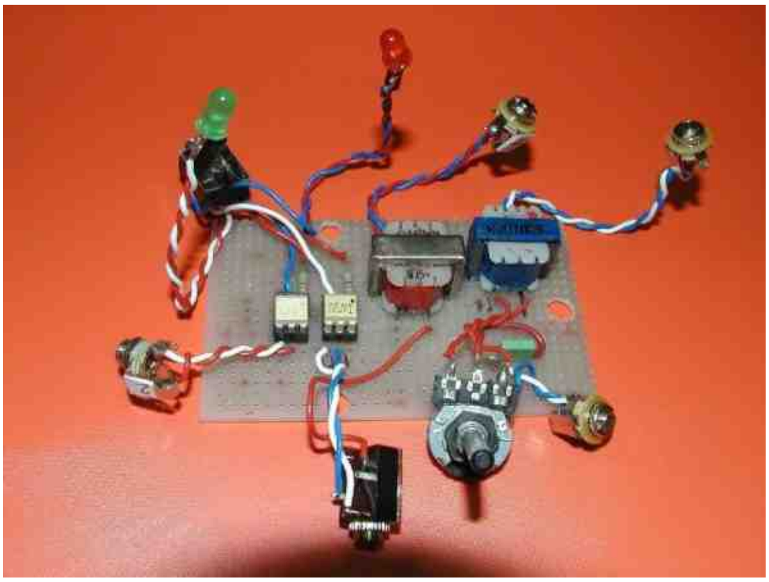
```
rest....hope she heals rapidly.....no fun to be
sick... o hope I avoid the flu thigear but
being o   campus exposes me to a elot of things.
...oh well thaetstethe risk lmust take.
Really enjoyed the chateJohn....doesn't  o-ppen
very  Ften.....I li
```

Or how to remove the so called "ground loop" and the reentry in the RTTY broadcast and make radio and PC happily coexist

One of the problems that affects our digital broadcasts which make use of audio cards, as for instance RTTY and PSK 31, is the reentry of the signal between RTX and the PC. These reentries often block the keyboard, make it impossible to get back to RX, send out "dirty" signals and so on.

A solution in these cases is to lower gradually the power, until the problem is over; anyhow this is not the ultimate solution, and in some cases you can put it into practice only by getting down to few watts. To get rid of the problem efficiently and successfully, you should isolate electrically both the RTX and the PC.

Let’s see how:

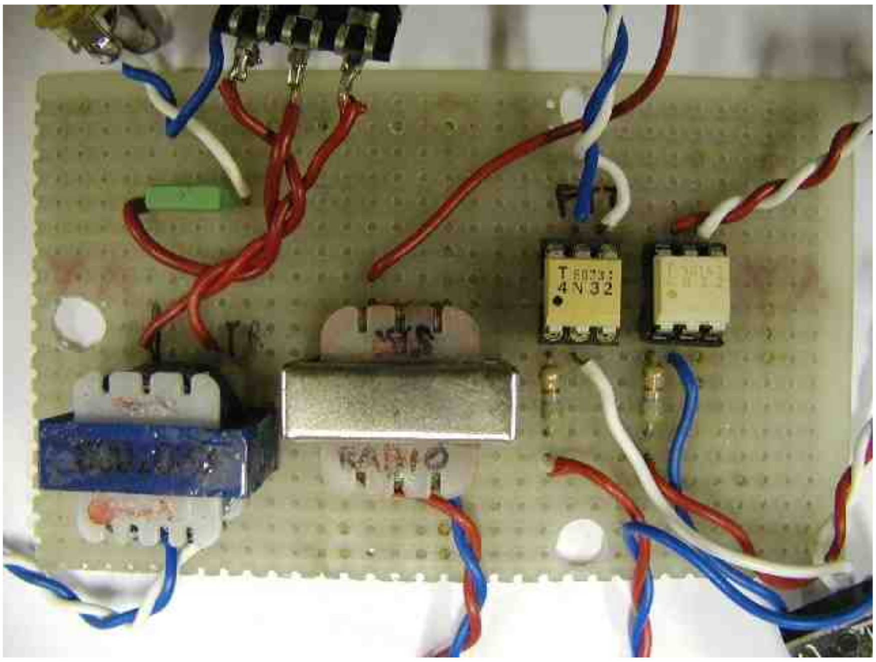


The minimum kit in order to transmit digitally is the following:

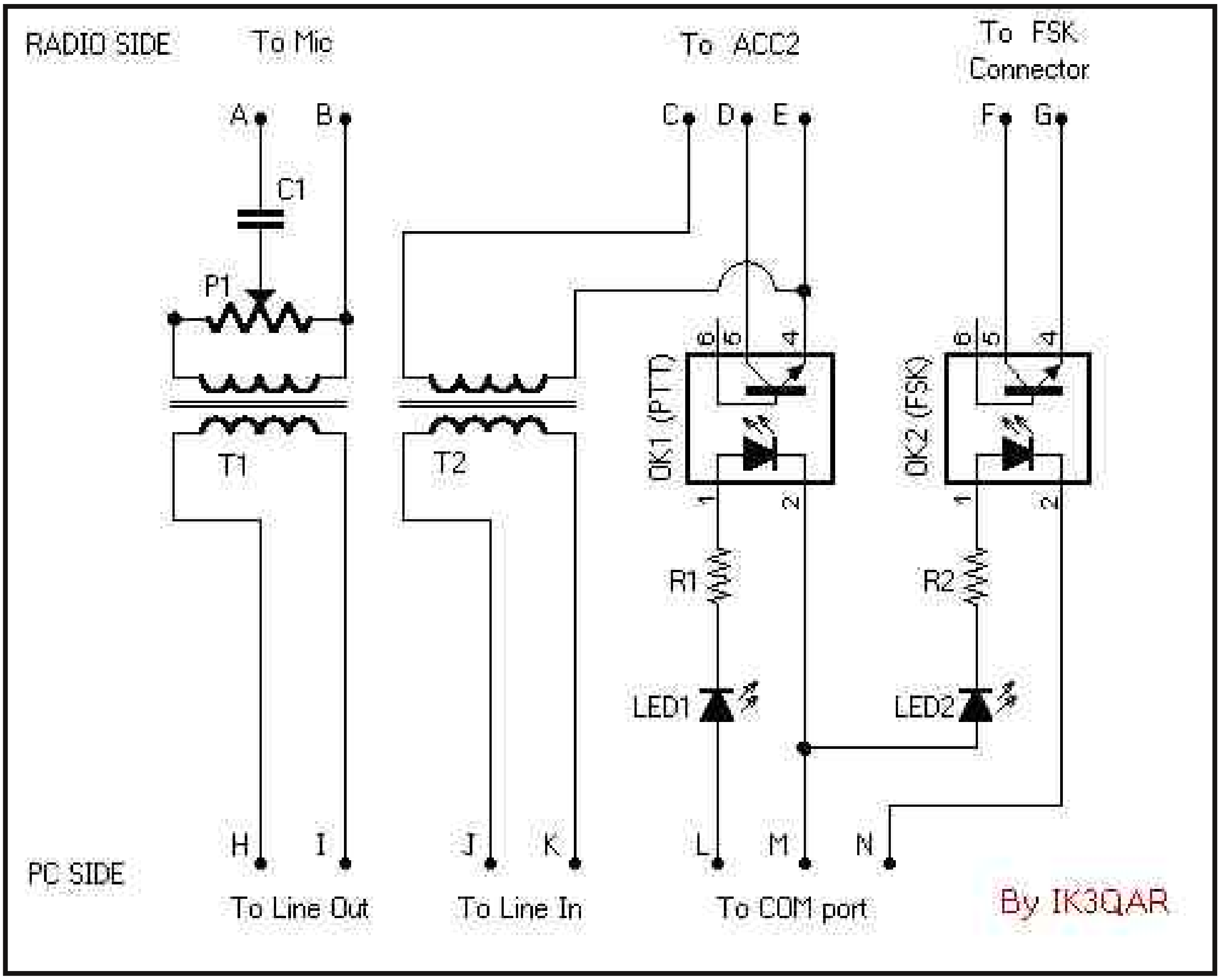
- A cable connecting the audio output (headphones, aux, phone-patch...) to the "line in" socket of the sound blaster
- A cable between the mike connector (or aux socket) and the "line out" socket of the sound blaster "line-out"

Both should be electrically interrupted by a small audio transformer, like those used in the am/fm portable radio sets.
If you want to transmit by FSK and use the PTT operated via serial port, you should use 2 more cables between the PC serial and RTX.
The home-site of the excellent software MMTTY (by JE3HHT) provides the transistor based diagrams for the interface, which though do not isolate radio and computer.
In this case the solution I have adopted to separate RTX/PC is to use 2 optocouplers instead of transistors:

- The first being used for the PTT commutation
- The second being used for FSK transmission (for the RTX that allow it)



Here is the complete diagram of the interface I have realized for the TS940 with the precious contribution of Vincenzo IW3FOL and Vittorio I3VFJ.



CAUTION: Though the circuit works perfectly, I don't take up any responsibility about the possible damages the diagram might cause to the PC, radio or any other item.

This is the component's list:

AFSK (TX) side
C1 - 100 nF Capacitor
P1 - 4k7 ohm Potentiometer
T1 - Audio transformer (1:1)

FSK (TX) side
R2 - 560 Ohm 1/4 Watt Resistor
OK2 - 4N32 Optocoupler
LED2 - Led Diode

A/FSK (RX) + PTT side
T2 - Audio transformer (1:1)
R1 - 560 Ohm 1/4 Watt resistor
OK1 - 4N32 Optocoupler
LED1 - Led Diode

diagram's Pin	On generic radio	On TS940
A	MIC	PIN 1 (MIC)
B	GND (MIC)	PIN 7 (MIC)
C	Radio data output	PIN 3 (ACC2)
D	PTT	PIN 13 (ACC2)
E	GND	PIN 4+12 (ACC2)
F	FSK	(FSK)
G	FSK	(FSK)

diagram's Pin	On PC (sound card)
H	Line Out
I	Line Out
J	Line In
K	Line In

diagram's Pin	On PC (COM DB9)
L	PIN 7 (RTS)
M	PIN 5 (GND)
N	PIN 3 (TXD)

NOTICE: The circuit described here works perfectly on Kenwood TS940, whose transmission circuit FSK is reverse operated compared to the majority of other RTX: for use with other radio sets you will have to slightly modify (only for the FSK (TX) part) the circuit by connecting the OK2’s pin 1 (including R2 and LED2) to the "N" contact instead of the "M" contact (see diagram) and the pin 2 to the "M" contact of PC’s COM port.

73's ! IK3QAR.it

QSL INFO

NEW QSL TRACKING SERVICE IN CHILE

Have you sent a QSL to Chile but had no reply? Perhaps you had a contact with XQ, CE, CA, CD, XR, 3G, CC which has not been confirmed.
A group of Chilean amateurs is offering to try to help to obtain missing card or cards by carrying out searches and making enquiries in Chile. This service is offered as a goodwill gesture by some Chilean amateurs and is completely free.

To use the service you need to contact José Luis Jiménez. His email address is: ce1kr.joseluis@gmail.com.

You can write to him in Spanish or English. Full details are available on the website:
http://hunting-qsl.blogspot.com/

QSP from David Calderwood, CE2WZ - GW4VHO

DL3OCH Portable EME Operation
From QRZ news Jan. 2009
Website: www. K3IR.org

Well, for beginners I strongly recommend to keep the system as simple as possible. All I am using is just the single yagi, about 5m coax cable and the transverter. The advantage of using a transverter instead of a 23cm radio should be clear. It is much more sensitive and does not require an additional preamp (as long as the coax to the antenna remains short).

The advantage of the single yagi beats several disadvantages. Of course I lose 3dB due to polarization loss since most other stations are circular polarization. But look at this; I do not have any coax relay. I can never choose the wrong polarization. Everybody will hear me and I hear everybody. I do not need any kind of sequencer.

The yagi is assembled in just 10 minutes. I need 20 minutes to put my station on the air (including starting laptop etc.). Since the cable is short, I do not need an additional pre amp. All these are things that can fail and can lead to an unsuccessful Dxpedition. As soon as I connect the transverter to the antenna and point the antenna at the moon, it works. The yagi has 21.9dBi gain, which is just 2dB less than a 1.8m dish. My yagi fits easily into my luggage that I can check in at the airport.

To handle one yagi is very simple. I point it visually at the moon. Adjusting every 10 to 15 minutes is enough since the 3dB beam width angle is about 14 degrees. I sometimes do not see the moon at all. In these cases, I simply use a compass to adjust the direction.

Using two or more yogis has another disadvantage. It brings practically 2 to 2.5dB more gain (due to additional losses on coupler and coax). This increase in gain creates more and bigger side lobes which leads to higher noise level on 23cm. So, in the TX path you have the 2 to 2.5dB more gain but in the RX case you have only about 1.5 to 2dB more effective gain because of the higher noise. It gets even worse with four or more yogis. So, one long yagi (about 5m) seems to be the optimum regarding weight, portability, costs and results.

DL3OCH in 3A, Monaco

TF/DL3OCH activity. I forgot my mast in OY so I had to find something else. ...something

The activity has increased a lot especially on 23cm. The smallest station ever worked with this setup was RW3BP who used a 2.4m offset dish and 300W. If you take a look at people's equipment you will see, that most of them would be capable of working a single yagi station if they are using JT65. You can always turn off the deep search decoder, which simply needs a little more time until the QSO is done.

Vy 73 de Bodo, DU9/DL3OCH

Bodo, HB9EHJ in T7, San Marino

Audios interconnexions RX/TX to PC
By ON4BX, Arthur

SUMMARY :

Often, OM's have some problems of interference, lost of program, parasitic oscillations, or malfunction of their computer when their TX is on air. The author has noticed by monitoring the signals on the band that frequently the reason is HF induction on the wirings between computer and radio set-up.
He suggests a way of simple audio interconnexions preventing interference.

Introduction.
More and more, computers are used as a main part of the amateur radio-station, specially for all digital modes, but also CW, SSTV,
or simply logging on line. In the past, when I started RTTY 39 years ago… very little equipment were available on the market, or were too costly for most of us. The only way, was to wire home-made tuning units, like the Mainline TTL unit…
No computer was available, nor software and a TU had to be built for each mode …
Today, every Ham has a PC linked to his station and lots of software for any mode are available at low cost or free.
I have listed as last part of this text a few sites where more information is available.
Of course, have a look in the dedicated groups on the internet and you will found many more…
For all digital transmissions, rtty, amtor, pactor, psk, sstv, hell, cw,…… you only have to have a conventional SSB rig, a low cost PC and software loaded from the Internet!

CONNECTIONS RECEIVE to COMPUTER
Audio signal is usually at high level (1Volt) Fig.1. A very simple interconnection is usually enough. But more about that later in fig. 10.

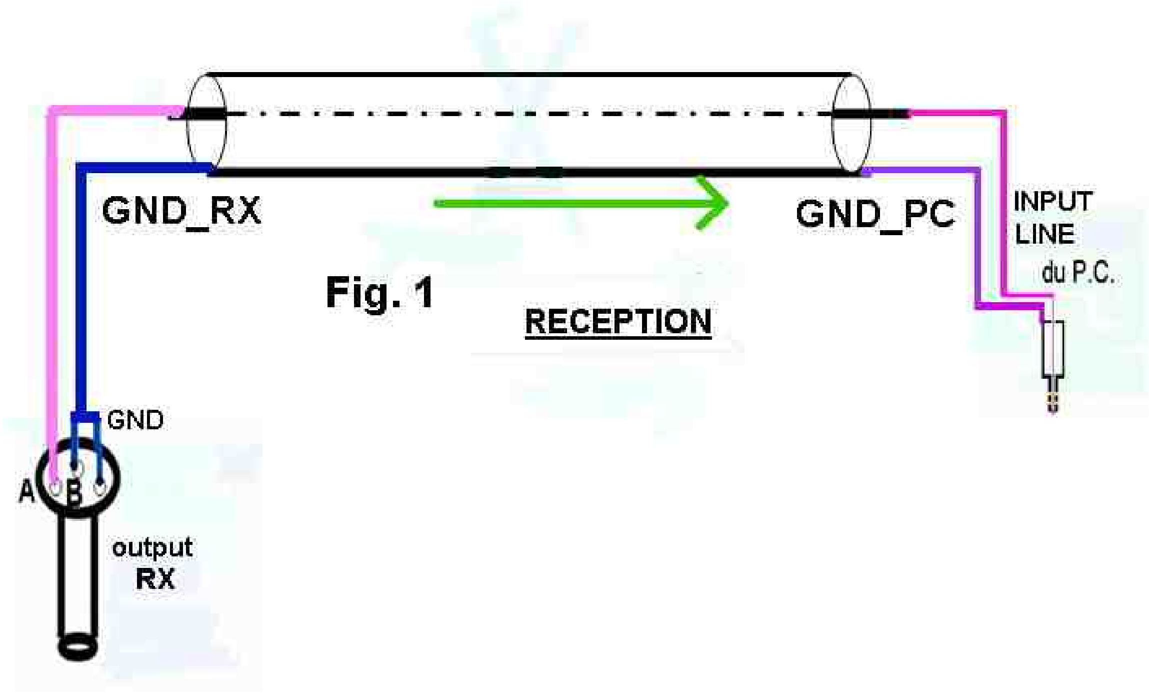
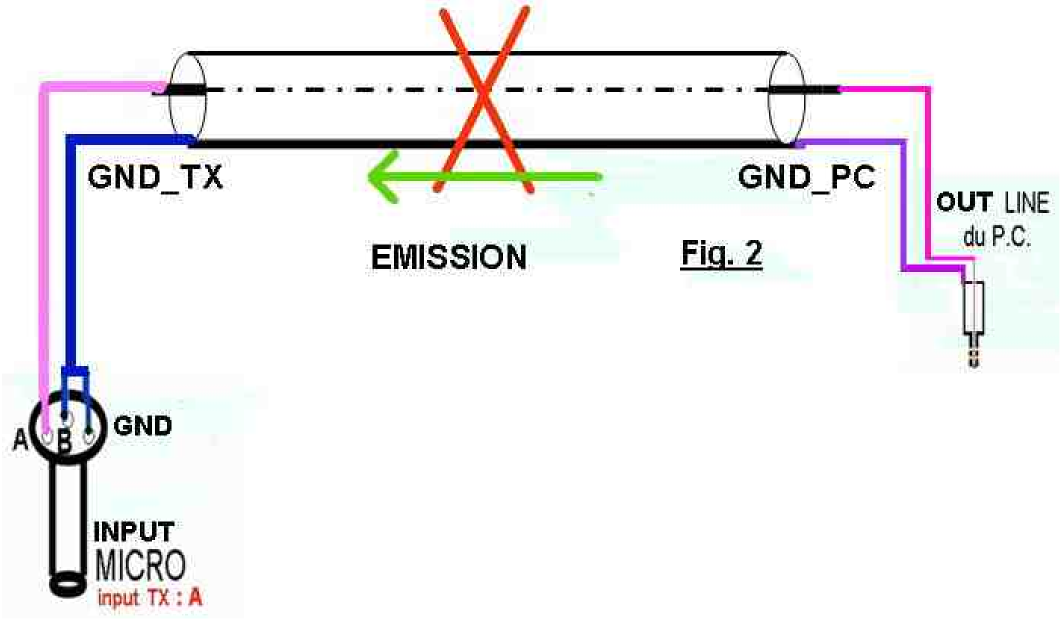


Fig. 1

CONNECTION COMPUTER to TRANSMITTER

We may think as a first approach simple wiring as in fig. 2.



Note immediately that I have crossed the link with big **RED CROSS** !
That is the simplest way to generate very broad signals for example in psk mode!!

Hams are usually using the mike plug as entry point, except if the receiver has separate high level entry point. But in generally, those entry points are dedicated for a particular mode such as rtty, packet,….
And very often, the receiver parameters such as filters, audio shift… are factory set for the selected mode. Generally, the mike input is used as entry point. So you have the possibility to adjust the tx parameters as you wish. That is very convenient.We assume that the TX is good enough to reject the carrier and other sideband !!

For all that follows from now, we will consider that the mike input is in use. Of course the reader has to adapt the input sigs if he has the opportunity to dispose of a high audio level entry point, or if he wish for some reason use it.

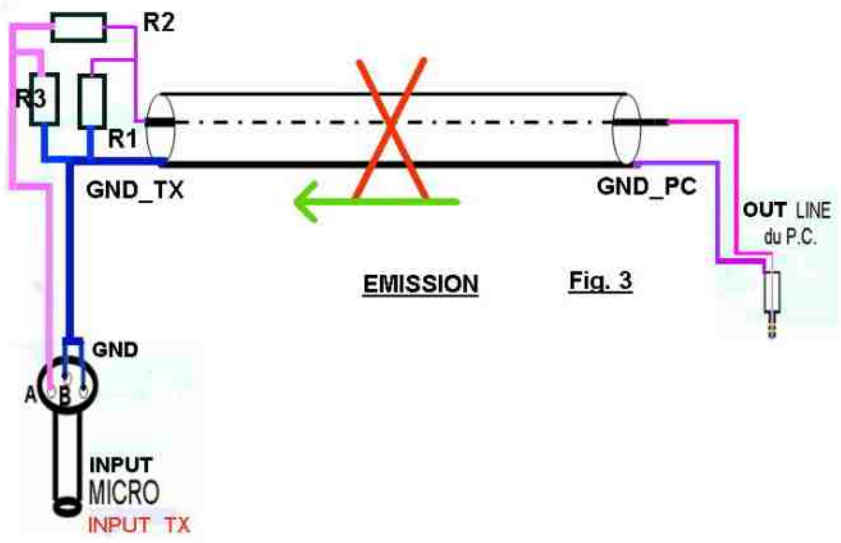
But, the interconnection noted in fig. 2 must not be used!! The level needed at the mike input is millivolts. The output level of the computer sound card is around 1V. The overload at the mike input will be very very high, causing at least very wide unwanted sidebands or splatters…

A first approach is maybe to reduce the output level of the sound card output… But as sounds are obtained via internal digital-analog conversion, at low levels the number of the digital steps is limited and quantification noise will appear and of course, noise plus few digital steps resolution means big distortions

A second approach should be to turn the mike gain control close to fully to the left… close to zero… That is no better!!
as there are also quantification noise associated to mike circuits and we have to add the other residual noise present in the RX/TX. That is also the best way to poor signal output!

TRANSMITTER : FIRST STEP

At first, we have to adapt the level of the input audio signal
We will insert an attenuator close to the mike input.



The output audio impedance of the sound card of the PC is close to 600 Ohms. The total input impedance of the attenuator, as seen by the audio cable must be close to 600 Ohms.

But usually the audio spectrum of the signal is quite narrow. The adaptation tolerance is not as strict as for hi-fi audios!

R1 will be the main terminal adaptation. But it is in parallel with the attenuator itself R2 + R3 and also the input impedance of the microphone input circuits. Attenuator is R3/(R2+R3). (R3 with input mike in parallel). I suggest 10 Ohms for R3 and for R2 value around 2K to 4K Ohms R2 should be selected such that the sound card output is at high level, close to the 1 volt, and the microphone input now close to midway. Of course, those values are indicative and R2 has to be rounded to obtain those values of setting. If we select 680 Ohms for the R1 main adaptation resistance, we should obtain an equivalent load for the cable close enough.

TRANSMITTER : SECOND STEP

Until now, a large RED CROSS has been drawed over the audio cable. It is possible that the wiring should be enough for most hams…. But for many of them, HF interferences still appears when the TX is at high power output level, or very wide side-bands if not splatters… Have a look in psk31 mode!!!

This question happens from time to time in the various working groups on the net!

One important problem is still there: GROUND LOOPS!! Usually, electronic equipment powered by the power line have on both power input wires a filter consisted of two sets of capacitors connected between each wire and ground. Sometimes, with an inductance in series and then four capacitors to ground. The efficiency is usually correct against short transit pulses.

but they conduct ground currents through the capacitors. Those power plug are inserted in various location in the shack, not necessary just close together….

So the ground pin of various plugs will carry those capacitors' return currents and several millivolts may be present between those pins at the nominal power line frequency.

Furthermore, if those grounds connecting wires are long enough, they may act as antennas capturing HF sigs induced by the transmitter.

GND_TX and GROUND_PC may have several millivolts of unwanted voltage, HF + power sigs…..

That is called COMMON MODE voltages.

Of course, those sigs are added at the audio microphone signal around same level….

This happens very often when the transmitting antenna is close of the shack (like verticals in restricted areas).

Its imperative to break those common mode voltages (and currents) WE need GALVANIC INSULATION AS IN FIG. 4.

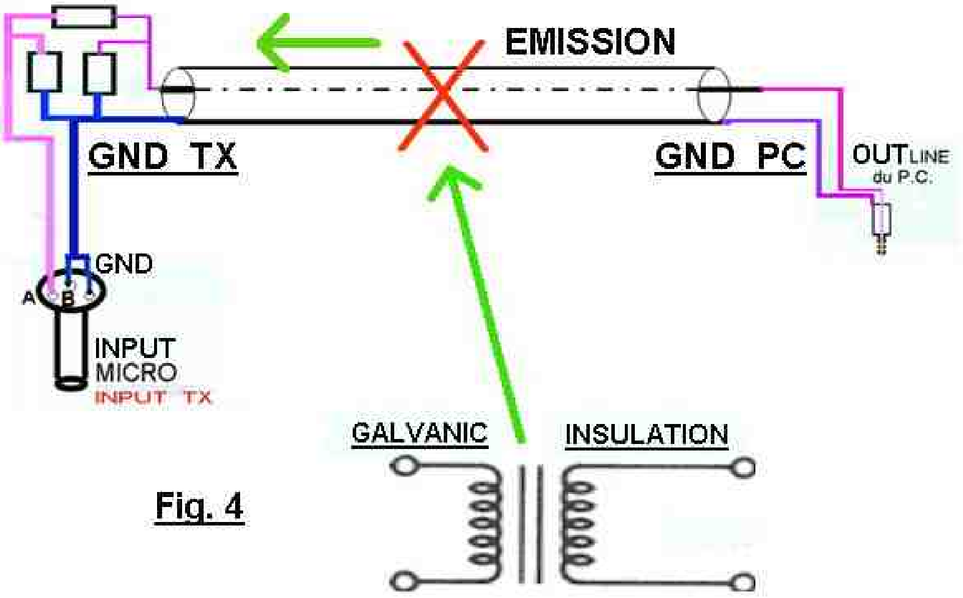


Fig. 4

This will be discussed later…. Red Cross still there for the moment…

TRANSMITTER THIRD STEP .

Before discussing the galvanic insulation problem, we had better first to see what type of wire is to be used??

Until now, all figures were showing simple insulated single wire with conventional shield (coax cable). That wire with its shield may be considered as a loop terminated by the terminal impedances. Even, it is a poor one,

that loop can generate induced voltages induced by the magnetic external fields. (We admit that the shield factor is high enough to act as electrostatic shield and avoid any induced voltage under external electric fields.). Such a single wire cable must not be used!!!!

WE NEED A BIFILAR TWISTED TIGHT PAIR, FULLY SYMETRICAL, FULLY INSULATED FROM SHIELD

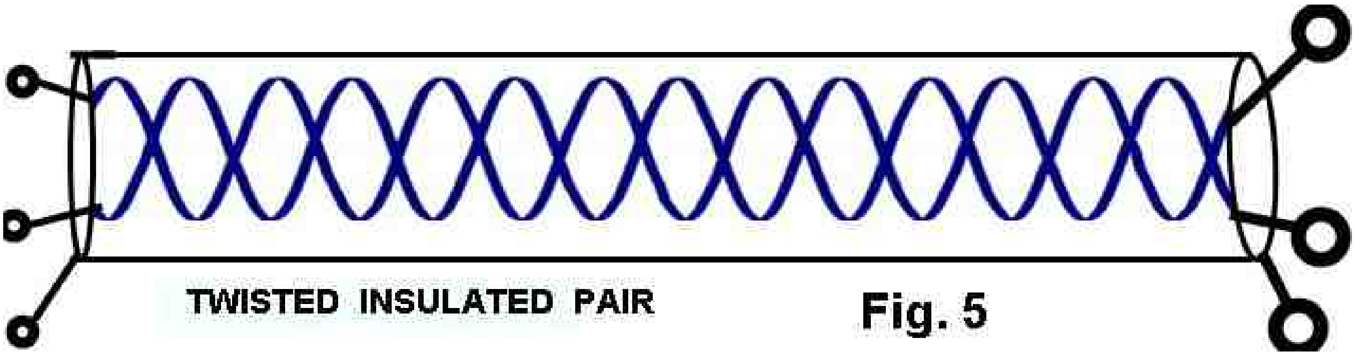


Fig. 5

Such way, induced voltages are compensated and the effect of the external magnetic field is close to zero, including all HF inductions created by the antenna current of the transmitter.
Usually, room is restricted into the shack and very often, wires carrying HF and audio signals are close together.
Don't forget that for the usual impedance of 50 Ohms, a power of 150 Watts means a HF current of 1.73 Amp.
Moreover, the SWR is not always perfect and values of 2 or more… are quite common!
The antenna current may be much higher than the nominal value !
More…. When the impedance match of the coaxial wire to antenna is not correct….or when no balun isn't inserted, or when the ground plane of a vertical is close to the shack there will be return currents flowing on the outside wires of the shield…
That means also induced sigs!
CONVENTIONALS SINGLE SHIELDED WIRES WILL CAUSE INTERFERENCES OR PARASITIC OSCILLATIONS. BIFILAR SYMETRICAL SHIELDED WIRES IS A MUST

TRANSMITTER FOURTH STEP . (tx side) WIRING (micro side) wires From the fig.2 , we replace the single wire by the shielded pair. We insert on the line the isolation audio transformer Fig.6 is now :

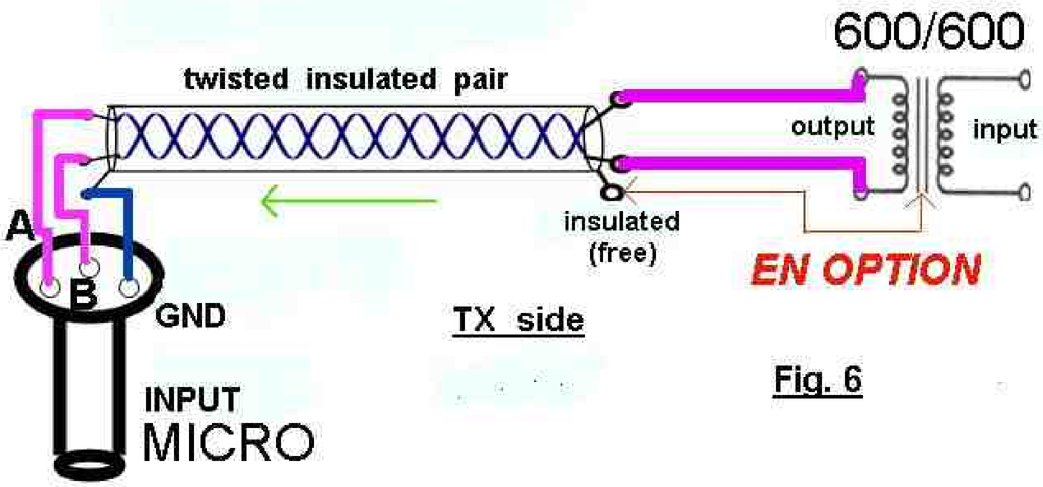


Fig. 6

Both wires of the output winding of the transformer are connected to the twisted wires.
BUT THE SHIELD IS LEFT FREE. It may never been connected to anywire of the twisted pair.
So the voltage at the output of the transformer appears exactly the same beween inputs A and B of the mike plug. The twisted line cancels the effect of any magnetic external induction and no ground loop or common mode voltage may appear as no other connection exists!.

The shield is connected to the ground pin of the microphone plug. The shield acts well against electrostatic external fields.

On the transformer side, the shield must be left fully free and never connected to any ground.
The only permitted connection is to link it to the core of the transformer, only if this last one is not grounded by its mounting or fixing.
The shield must never be connected to any side of the transformer winding!!

Galvanic insulation is now correct. .But we still have to adjust the level of the sigs, similar as fig. 3

WIRING (micro side) wires + attenuator

Adding the attenuator as we did on fig. 3 we have now fig. 7.

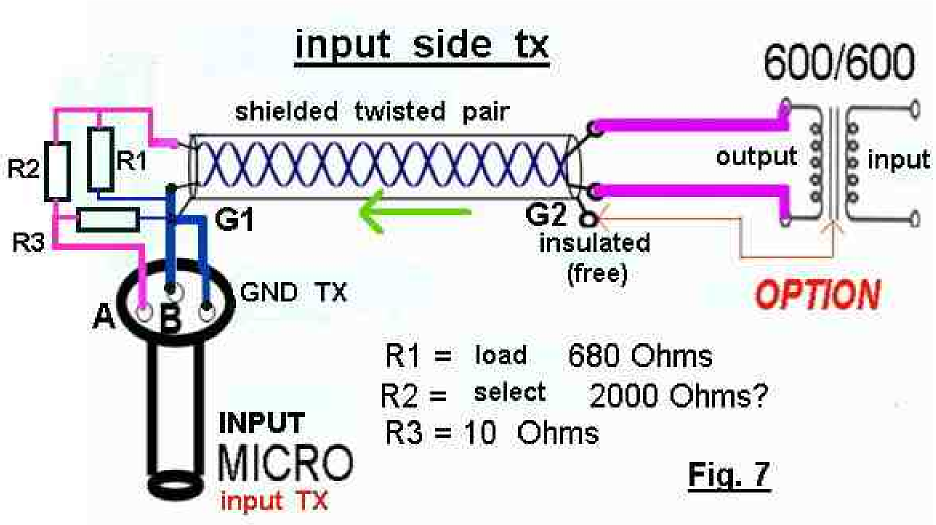


Fig. 7

Of course, the drawing of the mike plug is symbolic ! The user has to look at the mike plug he is using. A is the hot input signal, B is the cold one in case of a balanced entry. GND is the general ground . Usually mike input is asymetric so B is connected to GND.
If the mike input is a balanced one (without common mode Voltage between A and B),
the group R1 R2 R3 A B may be wired and left full floating and not connected to GND TX.
In that case, only the shield should be connected to the GND TX.

NOTE :
The best rule to reduce the effects of induction and noise is to locate the parts where are the low level sigs as close as possible of the input plug of the mike. A perfect solution is to wire the left side of R3 (see fig.7) directly to the pin A of the connector. Upper side of R2 and R1 are much less critical because there the audio level is high. Also, the cable length should be reduced as possible and transformer located as close as possible

WIRING (micro side) wires without attenuator

Until now, we have inserted a 1 to1 600 Ohms audio transformer. It is very common and easy to buy. But, we may replace it by an old audio step down transformer 4 Ohms to a few thousand Ohms. Such transformers were widely used as output stage of audio amplifiers in the past (final with tubes!). Of course, the step down is not critical but the only possible problem is that such transformers are usually of bigger size.. We have now only one resistor as loading impedance for the transformer and wiring much more easy! Just one resistor close to the mike plug. Fig .8.

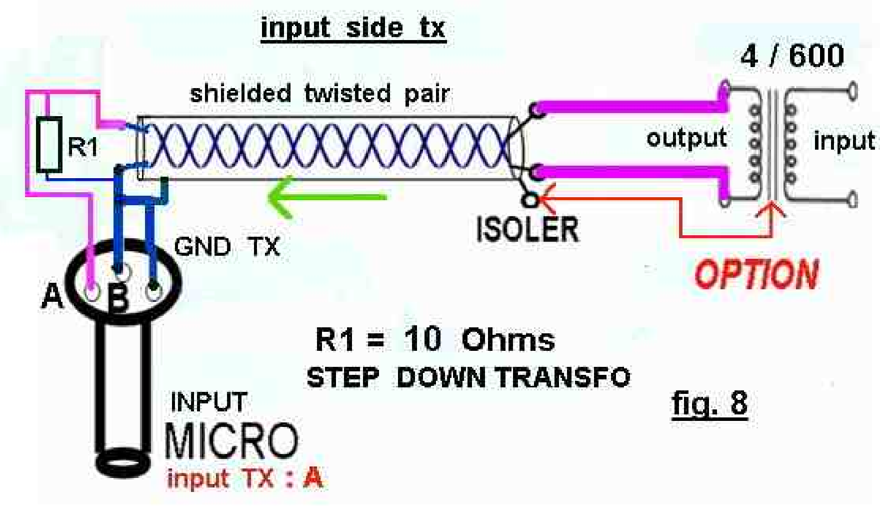


fig. 8

TRANSMITTER FIFTH STEP . (pc side)

The other side of the transformer is connected to the PC. as in Fig.9.

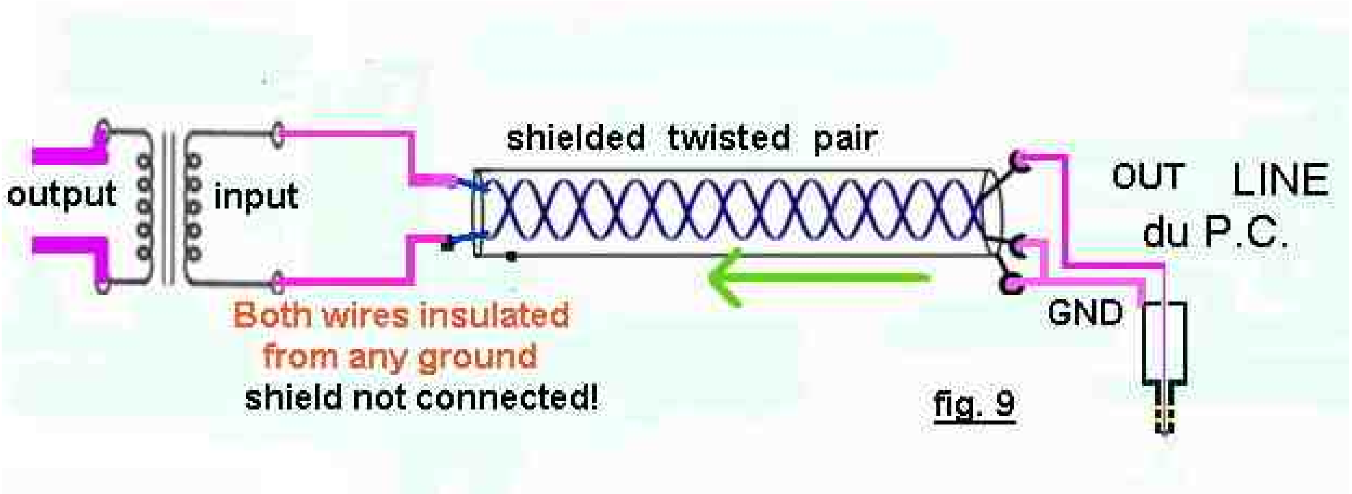


fig. 9

We will do exactly the same…but, it is much more easy. The LINE output of the sound card is close to 600 Ohms. We don't need any adaptation. It has been done by the other side of the transformer. Both wires of the shielded pair are connected to the input of the transformer and the shield left fully FREE.

(the optional connection of the core of the transformer has been discussed on the other side of it!)

More, the audio signal is always at high level so wiring and length are not critical.

The only attention is to avoid any length of the shielded pair that may be resonant with the transmitter output frequency!

RECEIVER CIRCUITS (fig. 1 adapted)

Of course, same rules can be adapted for the receiver section.

Fig.1 is now fig.10 (to input PC) Fig.11(out from receiver)

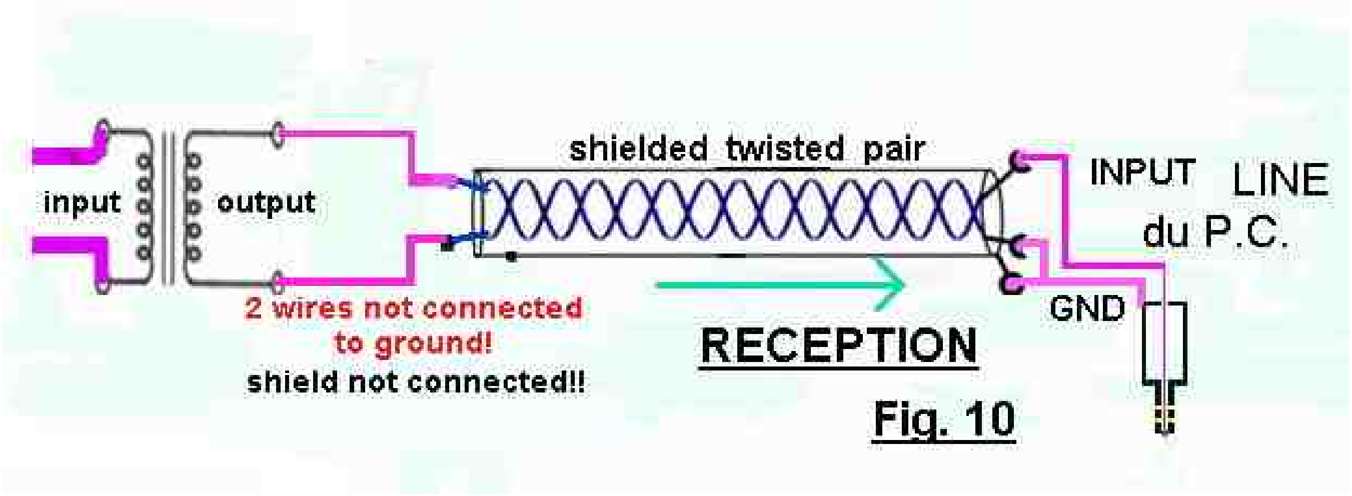
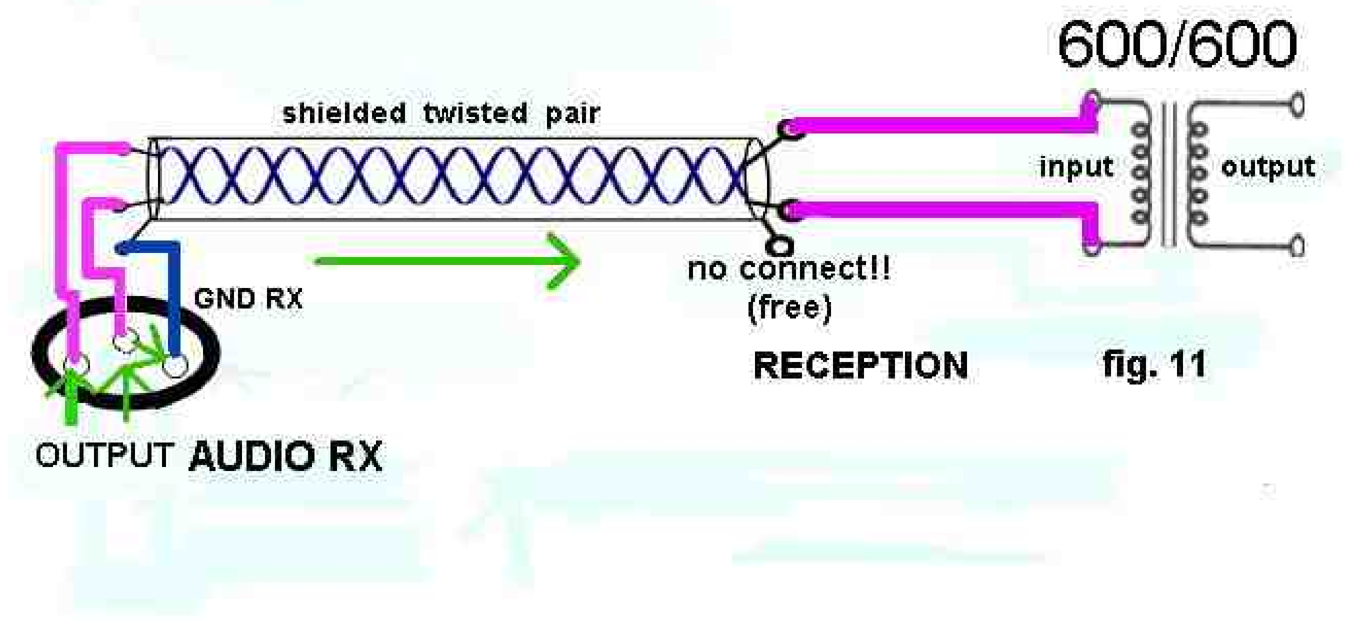


Fig. 10

All sigs are at high level, so less critical.



RECEPTION fig. 11

I suggest to use also a separation transformer to have full galvanic insulation, both transmission and receive sections. The impedance of the transformer is not very critical.

NOTE:
The reader will have to select where to pick up the audio signal. There are several possibilities.. external speaker, phones socket, auxiliary connectors at the rear….

CONCLUSION :
You have from fig .7 to figr.11 the best way to do all needed interconnexions between radio and PC. This aspect is usually considered as secondary part of the shack. But experience shows that very often there are plenty of lost time when interference occurs… before wiring is considered.. This a simple but efficiency solution. Thank for you for having read it.

73's from ON4BX, Prof. Arthur BLAVE Ir, Faculty of Applied Sciences, MONS BELGIUM
E-mail: on4bx@tvcablenet.be

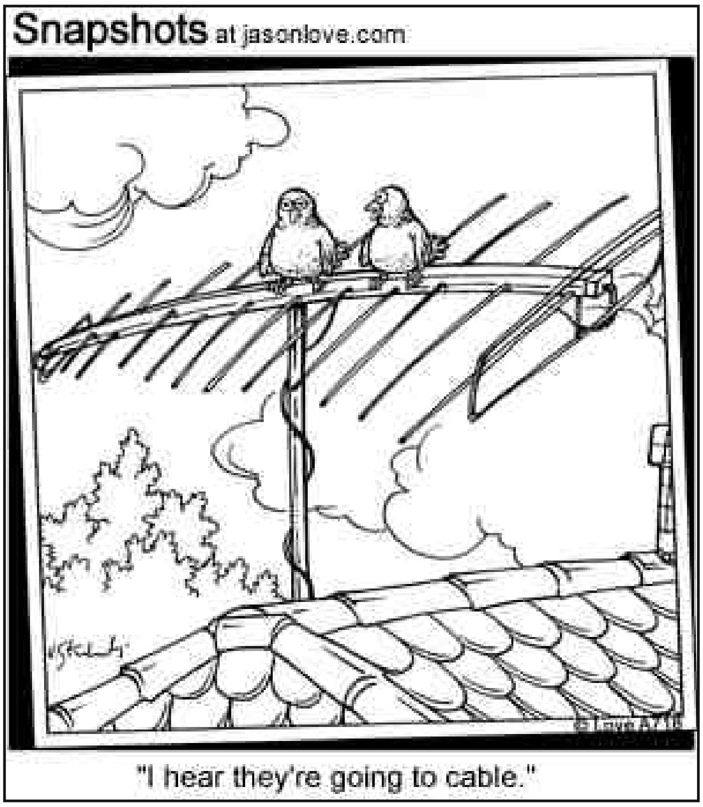
Rev.1 : grammatical corrections kindly suggested by ZL1IE, Thanks Brian.

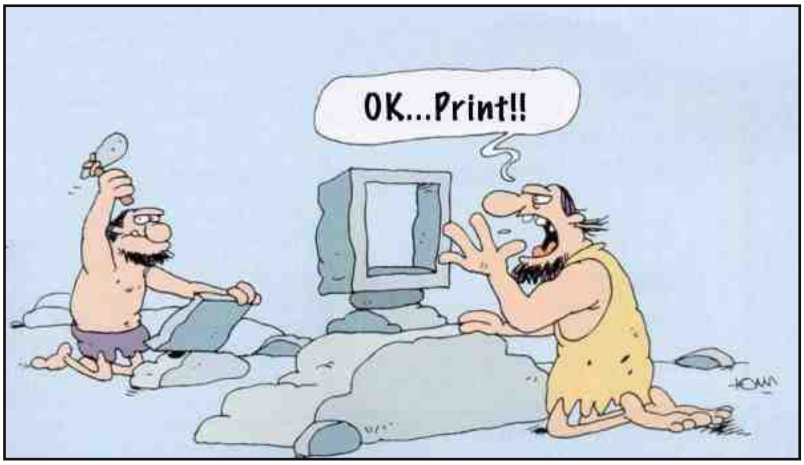
BIBLIOGRAPHY :
Here are a few references concerning rtty and psk.
I suggest the reader consult the various working group on the net…
Many other references are on the Internet. Use by example Copernic for a more detailed search.
http://www.copernic.com/en/products/desktop-search/index.html
Of course, all digital modes are concerned. Interference occurs not only on rtty or psk but everywhere when radio and pc are linked!

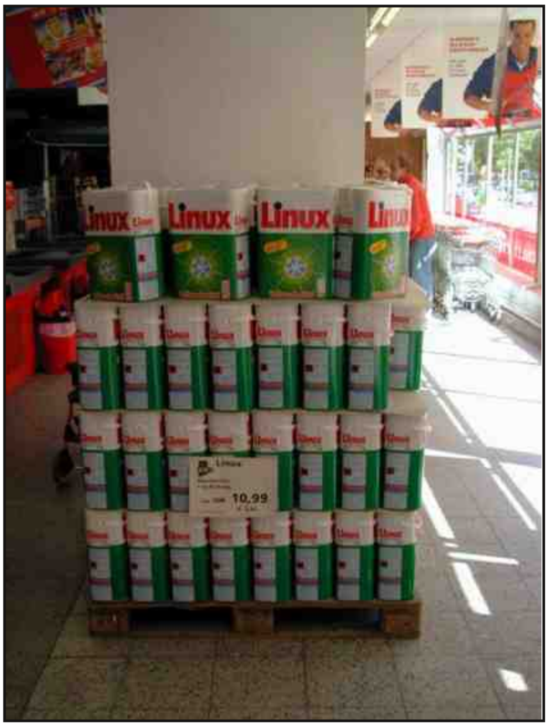
http://www.psk31.com
http://www.rtty.com
mmtty@yahoogroups.com
http://www.aa5aw.com/rttyinterface.html
http://www.sstvham.com

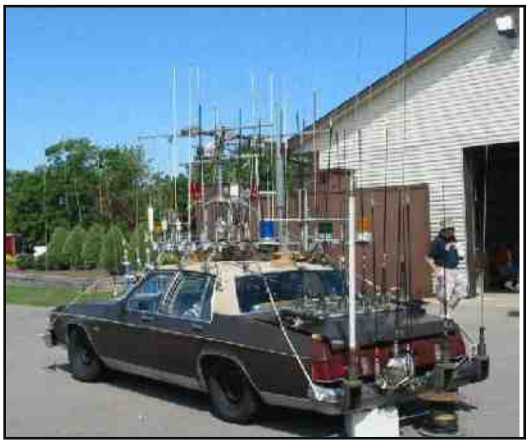
COMIC'S HAM

Have some fun









HAM-MAG

February 2010
[N.13]
Inernational HAM Magazine - 100% HAM RADIO

special QRP issue

French island QRP DX-Expedition

QRP CW transmitter For 10 MHz

RV3APM's QRP station

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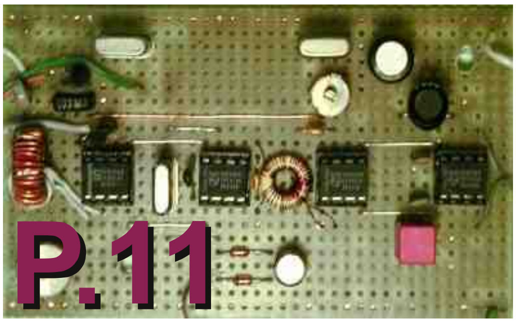

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POST-IT !

The breaking News

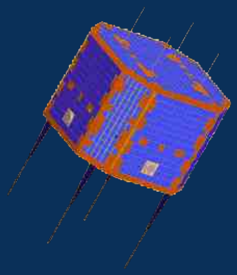
HAM-MAG has changed !

As we have not found any business collaboration we have decided to change Ham-Mag.
Since january, 21st 2010 Ham-Mag is an association.
So, to continue to receive your issue you have to become an active member.
As a member of Ham-Mag, for as little as $15.00 per year, you will enjoy:
A free PDF monthly magazine.
The Publication of your manifestations for free.
The member subscription is made online by credit card (secure payment) or by money bank transfer (IBAN/BIC).
http://www.ham-mag.com
And click on "join us"
After the payment, you'll receive your membership card via E-mail and you issue (PDF file) every month.
If you have made a donation (2008 -2009 - 2010), contact us to become an active member and remind us the amount of your donation (for instance, if you have made a donation of $30, you can be a member for 2 years).
Every OM / YL who will send an article for a publication in Ham-Mag will be active member for free (for 6 months / 6 issues).
This is the only way we have found to continue this adventure.

SILENT KEY

Rich, W2VU, from CQ Magazine, reports: "It is with great sadness that we report that our friend and longtime colleague, Dave Ingram, K4TWJ, became a Silent Key this morning (Jan. 20), as a result of complications from a massive heart attack he suffered on New Year's Eve. Dave has been writing for CQ at least since 1981 and has been a CQ columnist since 1982, starting with an amateur television column called World of Video. That column eventually broadened its outlook and became World of Ideas, Dave's signature monthly column in CQ. Regular topics included code keys, stealth antennas, building 'new vintage' tube gear and mobiling. In addition, for the past decade, Dave has been CQ's QRP (low power) Editor and 'How it Works' columnist. His enthusiasm for whatever caught his interest was contagious and spread widely through his informal yet educational writing style. Funeral arrangements are not complete as of this writing. We will post additional information on the CQ website news page when it becomes available. Condolence cards may be sent to Dave's wife, Sandy, WB4OEE, at their Callbook address."

NEW AMATEUR RADIO SATELLITE HO-68



On 15 December at 0230 UTC China launched its first Amateur Radio satellite Xi Wang 1 (Hope 1) from the Taiyuan Satellite Launch Center in Shanxi province. It received an official OSCAR (Orbital Satellite Carrying Amateur Radio) designation of HO-68 six days later.

AMSAT China (CAMSAT) ran a special event station BT3WX from Taiyuan to commemorate the launch. They hope that the satellite will inspire radio amateurs and young people to learn about amateur satellite communication technology and space.

The 68 by 48 cm satellite weighs 60 kilograms and is in a 1200 km high Sun-synchronous orbit that enables contacts between stations over 5000 km apart. The communication payload includes a CW beacon and three crossband (145 to 435 MHz) transponders for SSB/CW, FM and digital AX.25 packet operation.

The transponders were activated a few days after launch and hundreds of contacts were made over the Christmas holiday period. The linear transponder, used for SSB and CW working, has proved very popular. It has a bandwidth of 50 kHz which allows about 10-15 simultaneous contacts to take place and sounds like the 20 metre band.

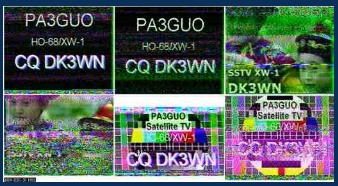
On 30 December Mike DK3WN and Henk PA3GUO showed you could also send pictures through the SSB transponder when they carried out the first Slow Scan TV (SSTV) contact.

Due to Doppler shift the CW beacon can appear to be up to +/- 9 kHz from its nominal frequency of 435.790 MHz and you need to tune your receiver to follow it during the pass. The beacon has been received on simple antennas such as a ¼ wave ground plane but for best results try a small yagi with about 8 elements.

To reduce the effects of Doppler the SSB transponder is inverting. This means that a LSB signal on the uplink becomes a USB signal on the downlink. You don't need much power to work through the satellite, many contacts have been made using 5 watts output. Always use the lowest power possible and ensure your downlink signal is never stronger than the beacon.

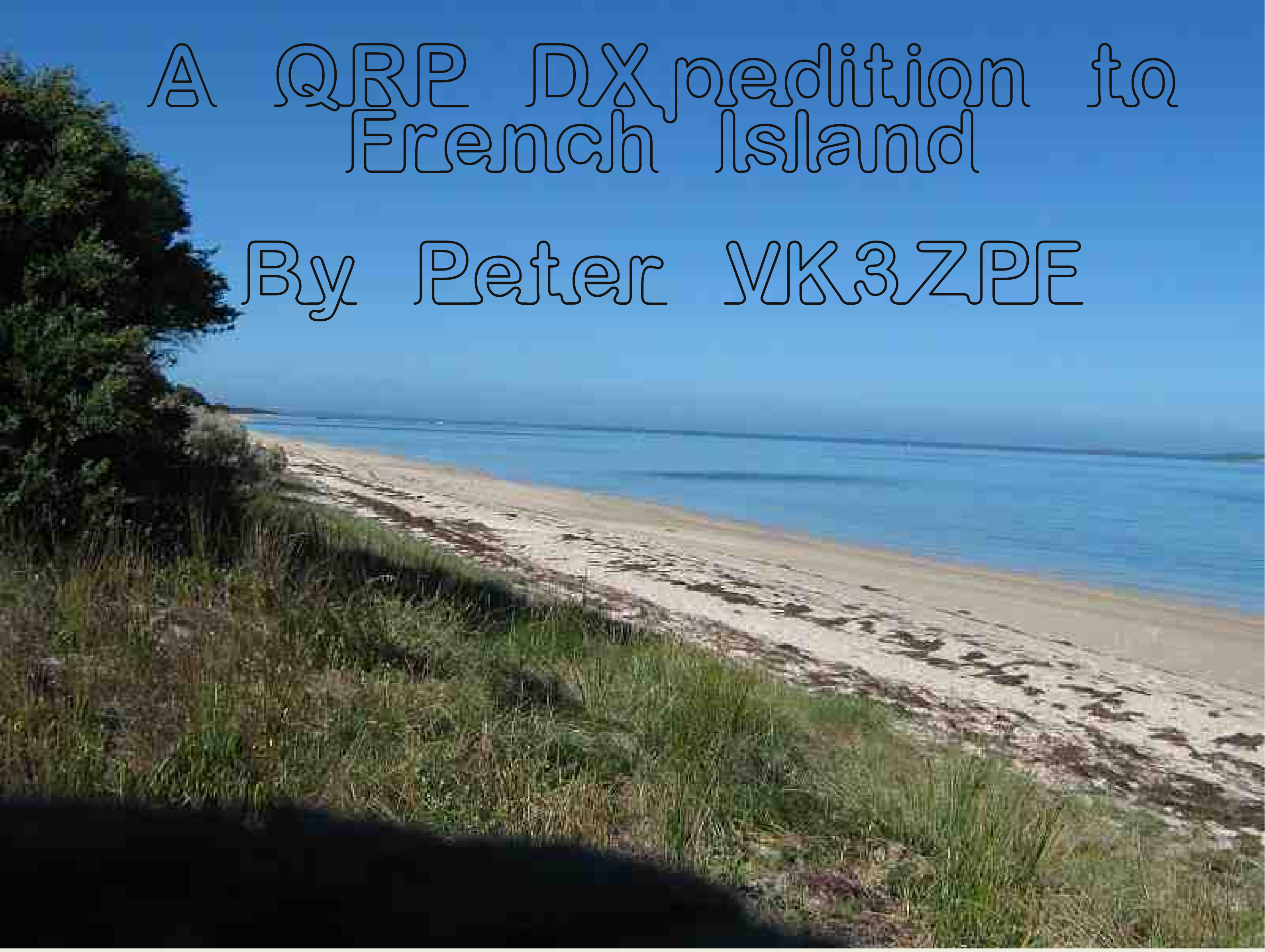
Mode	Uplink MHz	Downlink MHz
CW Beacon		435.790
SSB / CW	145.925 - 145.975	435.765 - 435.715
FM (67.0 Hz CTCSS tone required)	145.825	435.675
AX.25 1200 bps AFSK	145.825	435.675

HO-68 video by PA3GUO : http://www.youtube.com/watch?v=o6oDgUTHCwg
HO-68 Real Time Tracking (tick draw footprint): http://www.n2yo.com/?s=36122
AMSAT-UK: http://www.uk.amsat.org/
SSTV pictures exchanged by DK3WN and PA3GUO :



A QRP DXpedition to French Island

By Peter VK3ZPE



French Island is an island in Westernport on the south east coast of Australia. The French Island National Park occupies two-thirds of the island. One weekend in January four amateur , VK3ZPF, VK3FRST, VK3YDF and VK3TST set off to activate the National Park as part of the Keith Roget National Parks Award. The island is between 2 and 5 kilometres from the mainland and can only be accessed by boat.

This is their story.

Saturday morning came around and Peter VK3ZPF made the final adjustments to what he was and was not taking on the trip. He weighed the pack and it came in at 25 kg. This was a bit heavier than he wanted but Adam VK3YDF had said we would have room available to take some stuff if need be.

As Peter headed off up the freeway to pick up Adam he got a text message from Hayden VK3FRST saying that he was unwell and wouldn't be joining us. This was a disappointment as Hayden was the first to put his hand up to join Peter on the island trip. This also meant that the 40/80 m dipole, two batteries, an SWR meter and an IC7000 that Hayden was bringing wouldn't be there either.

Anyway, there was still Peter, Adam and Marcus VK3TST coming along so it was still worth going ahead. Peter picked up Adam and Adam tells Peter that he hasn't got his new camera yet so Peter says he can take some photos with his camera instead. There is about $1500 difference in the cameras but, having seen the photos Adam took, the quality of the camera is only one aspect of a great photo.

Adam and Peter arrive at Stony Point about 45 minutes early and set about finding where they should park. For $4.40 per day they can park in the car park at the back of the caravan park. This sounds like a good option so they pay 'Lumpy' at the gate the money. Lumpy is the gate keeper, if you like, and Adam reckons he knows everything that comes and goes from the island. Lumpy asked Adam and Peter a few questions about what we would be doing on the island. Peter didn't tell him about the radio stuff as sometimes it's just better to gloss over such details. Lumpy warned them to stay on the tracks and keep a lookout for snakes. Lots of snakes on the island was his comment. 'Sometimes you can see them sunning on the beach.'

The group had been warned about the mosquitoes, March flies, and sand flies but nobody had told them about snakes, until now.

After parking the car Adam and Peter went and bought the ferry tickets. $21 to get over and back. Again they got asked what they would be doing on the island. There seems to be a common theme here.

After a short wait Marcus arrived and he too went and paid for parking and then bought his ferry ticket.

The ferry left right on time and the group were stepping off at Tankerton Jetty 15 minutes later. Already the day had started to warm up and sitting in the ferry was not all that pleasant as it has lots of glass and no air-conditioning.

They loaded our packs on and headed off toward the east. After about 800 m there is a junction with the coast road and the group turned left and head north. The trip to the camp proceeded as planned and they stopped three or four times in the shade to refresh with water and re-apply sunscreen.

Once at the camping ground the group set about finding a suitable place for the antennas and tents.

There were four main options available as some other tents had already been erected.

One area to the south was quite small, covered and shaded, one area to the far north was exposed with no tree cover and two areas, side by side, in the middle. One was exposed with some stumps and the neighbouring area was lightly treed with some shade. This looked ideal for use as it gave room to set the squid pole as a loop or ground plane and gave Marcus a tree or two to set the 30m and 17m dipoles.

Peter started setting up the 20m quad loop and Marcus picked a suitable tree and started throwing my hammer up to try and get a rope over. After 4 or 5 attempts, a couple that got a little stuck, Peter gave it a try and got the hammer very stuck. After pulling the rope in a variety of directions it dawned on the group that they could try using the squid pole to push the hammer out of its position. To Adam's and the other campers amusement, Peter and Marcus managed to get the hammer free and drop it down along with the rope ready for Marcus to hoist the dipoles in the air.

Peter put the squid pole back on the stump and got the 20m quad loop ready for action. Peter made a contact into VK6 after just a couple of calls and this satisfied the award requirements. He then called CQ using VK3SAT and worked one other station on 20m.

Marcus had got his antennas up and started setting up his FT-817 when he realised he had left the microphone at home. So the group now had only 1 radio.

So they were down two radios and the 40/80 dipole, had antennas in the air for 30m and 17m but no radio to work them, no SWR meter to help build an 80m antenna and only 3 instead of 5 batteries. Not the ideal start. However, on the positive side they did have 20m and 40m and the FT-7 was unlikely to flatten all 3 batteries in a weekend.

Peter re-jigged the squid pole to be a 7 MHz 1/4 wave ground plane and they set about making some contacts on the 40m band. This proved to be the most productive band with 20 of the 22 contacts being made on 40m.

Peter worked 40m and the group moved around a little trying to keep out of the sun as best they could. Adam rigged a tent fly as a shelter and this blocked the sun for the few hours that they were exposed.

None of their published skeds on 20m, 40m or 80m gave any contacts. There may have been stations waiting on 17m or 30m but without a radio to work them the group wasn't there.

The group made contact twice with the scout Jamboree station VI2AJ2010 on 40m before dark.

In an attempt to keep our Saturday 80m sked Peter added some base load to the 1/4 wave 7 MHz antenna and gave it a try on 80m Without an SWR meter it was just an educated guess. The group got one contact really quickly on 80m but that was it. Nobody else seemed to be able to hear them over their own noise. After calling and getting nowhere on 80m, and just after it got dark, the group headed off to bed.

In the morning 80m was a lot quieter but still no answers to their calls. Again 40m proved to be a very useful band and the group made 8 contacts on 40m for the morning.

Just after 11:00 am they packed up and headed back to the ferry.

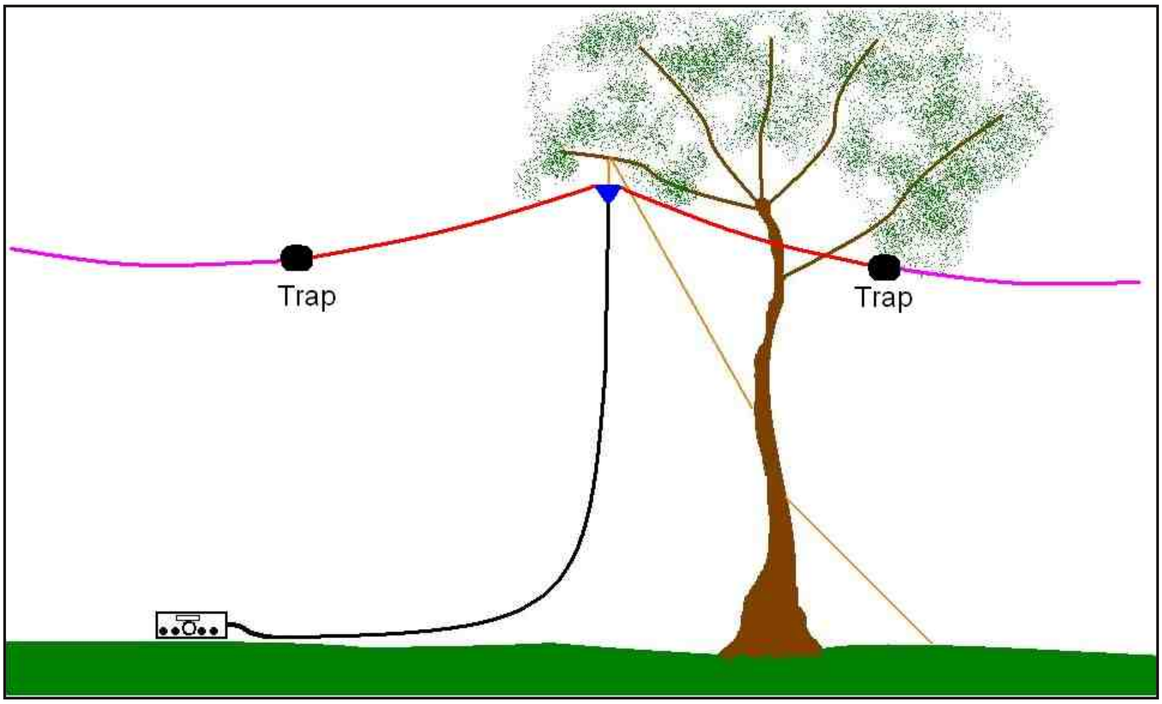
The group got to the jetty 5 minutes before the ferry was due and it was 10 minutes late anyway. 20 minutes later the group was back on the mainland having achieved everything they had set out to do, and more.

However the group had seen very few mosquitoes or flies and no snakes or koalas.

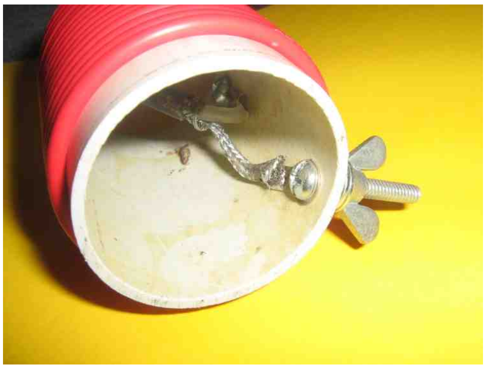
73 - Peter VK3ZPF
http://vk3zpf.blogspot.com/

40 & 80 m Portable Trapped Dipole

By VK3PZF



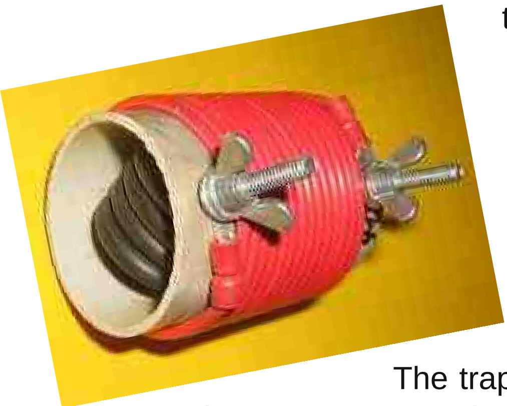
Sometimes the need to operate on two bands from a single antenna is required. Although a combined antenna is a compromise over two seperate dipoles, sometimes the available space or supports prohibit such.



One compromise antenna I have used is a trapped dipole.

A trapped dipole relies on parallel tuned traps to 'disconnect' the additional wire when used on the specified band. The antenna described here is for operation on 40 m and 80 m.

At the resonant frequency the two traps shows a high impedance, in series with the antenna wires, and very little RF energy goes past the trap. As a result the antenna 'looks' electrically shorter than it really is. At frequencies other than the resonant frequency the traps pass nearly all the RF energy past the trap to the rest of the antenna.



Looking at the sketch above, when working 40 m only the red wires are part of the antenna but when using 80 m the red and purple wires are the antenna.

Making the 40 m traps

The traps consist of 15 turns of insulated wire wound on a 42 mm OD PVC pipe 60 mm long. The wire I used is plastic coated, 2.25mm external diameter. The inner conductor is 24 strands of 0.2 mm diameter copper. The wire is terminated at each end with a crimp eye lug.

Inside the coil is a length of RG58 coaxial cable about 800mm long, open at one end and terminated to eye lugs at the other end.

At each end of the PVC pipe I have drilled a hole and a bolt, inserted from the inside, joins the coax lug to the coil lug, with the coax on the inside and the coil on the outside. As this is a portable antenna I have included wing nuts to allow the antenna wires to be easily attached and removed.

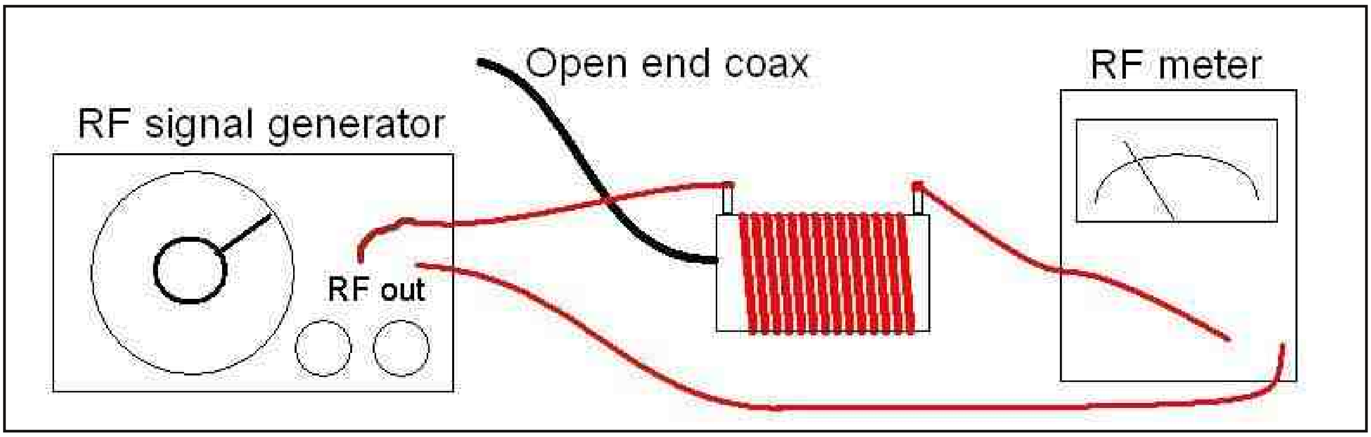
.

Once assembled wrap the coil with PVC electrical tape to hold the coil in position before proceding to tune the trap.

Once assembled the open ended coax is trimmed until the trap is resonant at the frequency of desired operation. Some texts suggest tuning either higher or lower than the desired frequency of operation, but I have had good results with traps tuned on the frequency of interest.

Tuning the 40 m traps

Tuning can be done with either a GDO or a signal generator and RF meter. I use the latter method.



Using the set up above, tune the RF generator until the RF meter dips sharply. This is where the trap is resonant. This should be below the desired frequency before trimming is commenced.

Trim a smal amount off the open end of the coax. Retune the RF generator to the sharp dip again.

Repeat this process until the trap is resonate near your desired frequency. Before reaching the desired frequency tuck the coax inside the pipe, leaving about 50mm sticking out one end. Continue tuning until the desired frequency is achieved. Fine tuning can be achieved by trimming only the braid, as shown above, rather than both the braid and the inner. Once tuned cover the open end of the coax with PVC tape and tuck into the pipe. Repeat with the second trap.

Tuning the antenna

Once the traps are tuned the antenna is constructed and installed into position for final tuning. The 4 antenna wires should start about 11m long before tuning. During the tuning process it is OK to strip and wrap the wire around the bolt until the final trimmed length is achieved. Once the final length is found terminate the antenna wire in an eye lug at each end.I found the best results by first trimming the 40m wires until the SWR was about 1.8:1 on 40 m then tuning the 80 m wires until the SWR on 80 m was about 1.6 :1.

With each band close to tuned I alternated trimming between 40 m and 80 m until an SWR of 1.3:1 or better is achieved on each band. When tuning trim about 20 mm off the wire each time. There is interaction between each wire and you will notice the 80 m SWR is affected each time the 40 m wires are trimmed and a lesser change to the 40 m SWR when the 80 m wire is trimmed. Once the tuning is complete the antenna wires should be terminated in eye lugs for ease of future set up.

Adding 20 m traps

Two 20 m traps can be added to include a third band if desired. For 20 m traps use 9 turns of wire on a 42 mm PVC pipe and 500 mm of RG58 coax to begin with.

The antenna wire lengths before trimming are 5.5 m between balun and 20m trap, 5.5 m between 20 m trap and 40 m trap and 11 m between the 40 m trap and the end of the antenna.

The tuning process is the same as for the 40/80 dipole, excpet the 20 m wires are trimmed first to an SWR of 1.8:1, followed by the 40 m wires then the 80 m wires. Repeat until the SWR on each band is below 1.3:1.

73's ! VK3ZPF

‘Bawdsey Research Station’ Commemorations 2010 Special Event Stations

In recognition of the historic events that took place in 1935 and 1940 which played a significant part in Britains war effort, Bawdsey Manor will be activated on three separate occasions during 2010.

During its time as a radar research centre and as an operational station for Chain Home radar, it was known by the acronym BRS – Bawdsey Research Station. Special event callsigns with BRS as the suffix have been applied for to recognise this.

Over the weekend of 26 to 28 Feb 2010, we will be on the air on HF, 6m and VHF, operating CW, SSB and possibly some digital modes too. The callsign requested is GB75BRS, since this operation will commemorate the 75th anniversary of the Daventry Experiment, which resulted in radar development in the UK being based first at Orfordness, then at Bawdsey.

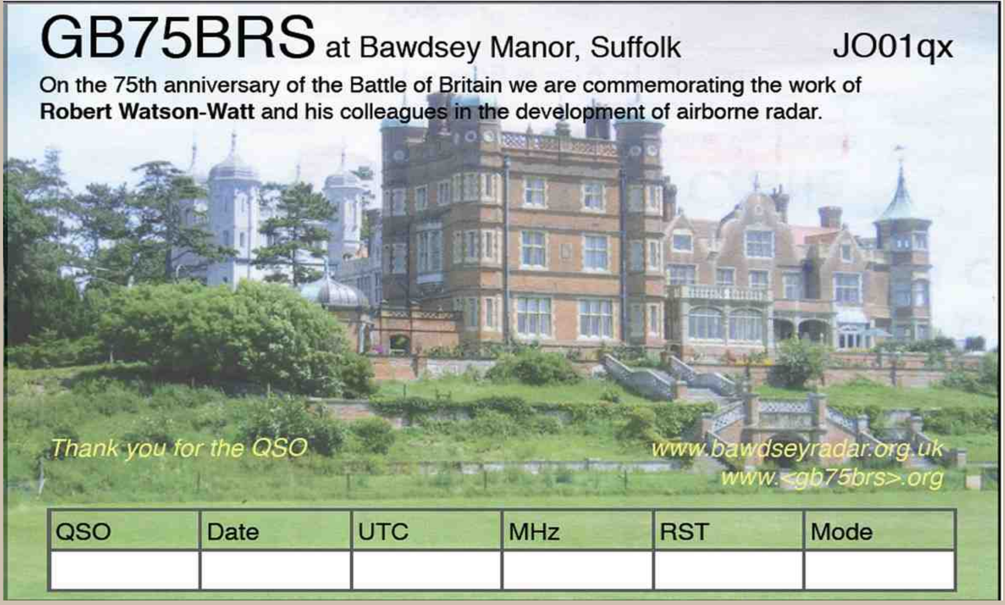
Later in the year we will operate on two weekends to commemorate the 70th anniversary of the start and end of the Battle of Britain in 1940. The callsign GB70BRS has been requested. These weekends will be 5/6 June, and 18/19 Sept. Operating bands and modes will be as for the February event.

Members of the public, and students from the school now based at the Manor, will be welcomed at any of the events, where there will also be display materials relating to Bawdsey’s history during this period.

A special QSL card will be issued to those making contact with either of the stations, and a parchment certificate will be available on request to stations who make contact with both callsigns – information about the stations, operation and QSL arrangements can be found on our web site at
http://bawdseyresearchstation.org.uk

Contact: Dave Powis, G4HUP
g4hup@btinternet.com

tel: 07777 648488



GB75BRS at Bawdsey Manor, Suffolk JO01qx

On the 75th anniversary of the Battle of Britain we are commemorating the work of **Robert Watson-Watt** and his colleagues in the development of airborne radar.

Thank you for the QSO

www.bawdseyradar.org.uk
www.<gb75brs>.org

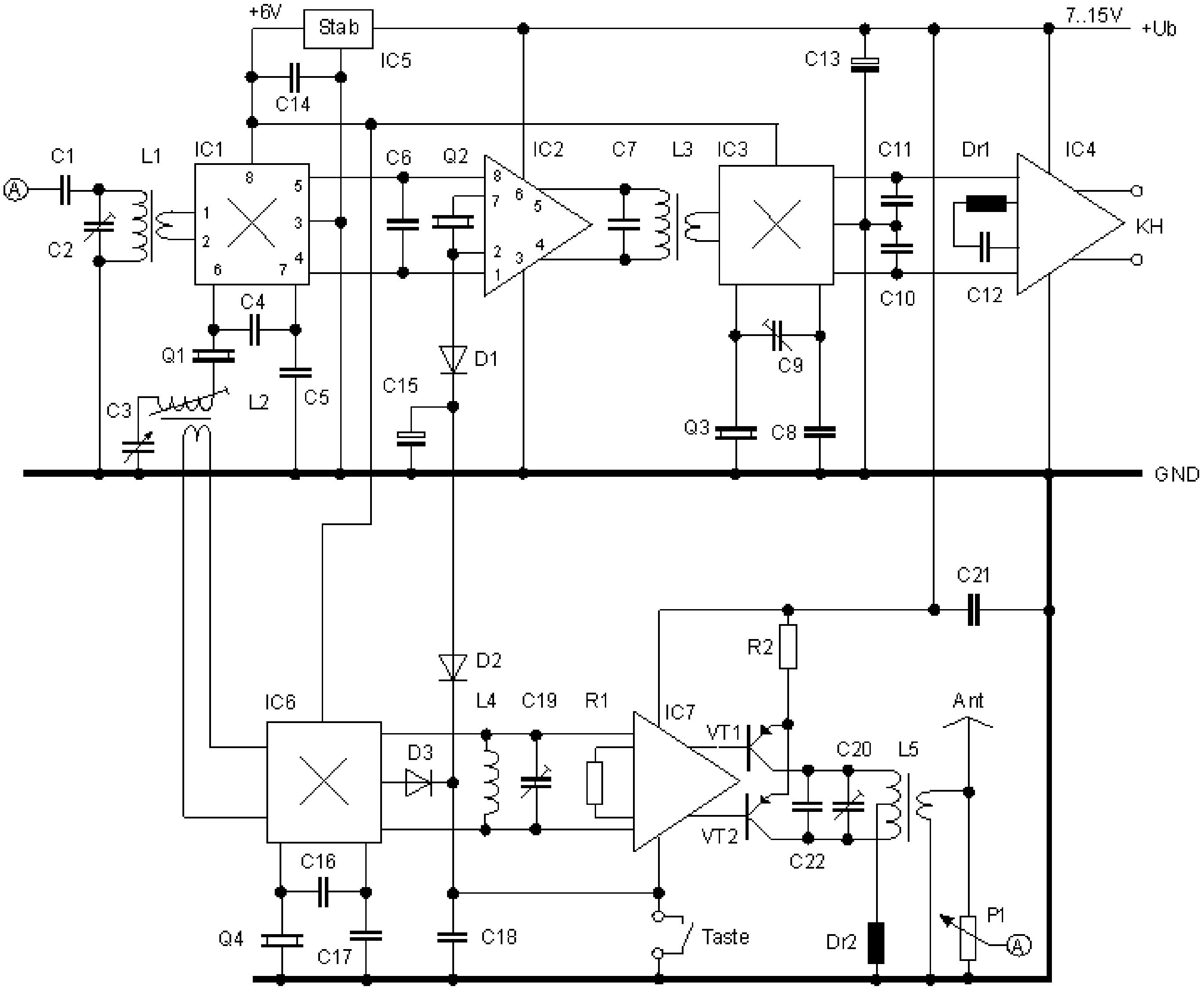
QSO	Date	UTC	MHz	RST	Mode

GM47: SIMPLE 30M BAND QRP CW-TRANSCEIVER

By DL2YEO

This simple QRP transceiver for the 30 m band did not result from a detailed requirement profile. I simply had some NE592 broadband amplifiers in my junk box, waiting for an application. After performing some tests, that application was quickly found: The amps should become part of a superhet transceiver. There is need for amplification in several places in such a rig, starting from the IF, over to the AF, and up to the RF for driving a push-pull final.

Fig.1: Transceiver schematic

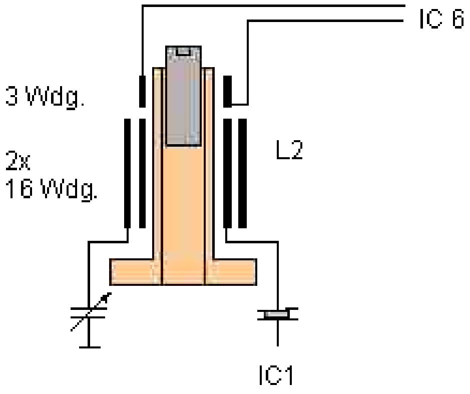


Variable crystal oscillator VXO

The high crystal frequency of 14318 kHz allows a pulling range of 20 kHz without special tricks. You can tune the reception range from 10100 kHz to 10120 kHz using the coil L2. Some tests with the number of turns of the coil are recommended here, such tests are commonplace when setting up a VXO.

The oscillator signal is coupled into the transmitter mixer through a small link winding on L2, so the Tx mixer can be driven symmetrically. I first tried a capacitive connection, for example 10 pF at pin 7 of IC 1, but found that too much of the rig's own radiated RF got picked up that way.

Fig. 2: Detailed view of L2



Rx mixer and IF amplifier

The Rx mixer is followed by a IF stage featuring an NE592. The mixer's balanced output is directly connected to the amplifier's differential input, minimizing component count at this point. I got a sufficiently narrow bandpass action for the selection of the intermediate frequency using a single 4194 kHz crystal as the only Z element.

Product detector and AF amplifier

The second mixer operates as a product detector. It is followed by a NE592-based selective audio amplifier. The RF portion of the mixer's output signal is surpressed by the two capacitors C10/C11. The remaining AF signal is directly fed into the differential input of the NE592.

The AF stage's frequency response is determined by the series resonant circuit DR1/C12. The stage has a gain of 42 dB at a measured center frequency 660 Hz. The volume adjustment takes place with the RF attenuator P1 close to the antenna input.

Headphones with an impedance of at least 1 kOhm are mandatory here, due to the relatively high output impedance of the NE592. A LM386 is actually the preferential component for driving headphones, or a 8 ohms loudspeaker. But I wanted to try something different this time.

Tx mixer, driver and power amplifier

A NE592 does its job also here. Due to its relatively high input impedance, it can be attached directly to the parallel resonant circuit L4/C19. Its 8 mW power output of the broadband amp is sufficient to drive a small push-pull transistor stage.

One pair of PNP transistors 2N3906, together with the tuned tank circuit C20/C22/L5, produce an optically clean sine wave. A measurement of the output spectrum showed the second harmonic to be down -70 dB and the third -37 dB, when compared to the power output at the fundamental frequency. The maximum power output is about 1.5 W when the unit is supplied with Ub=13.8 V.

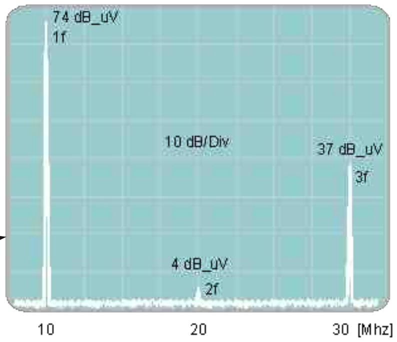


Fig. 3: Measured output spectrum

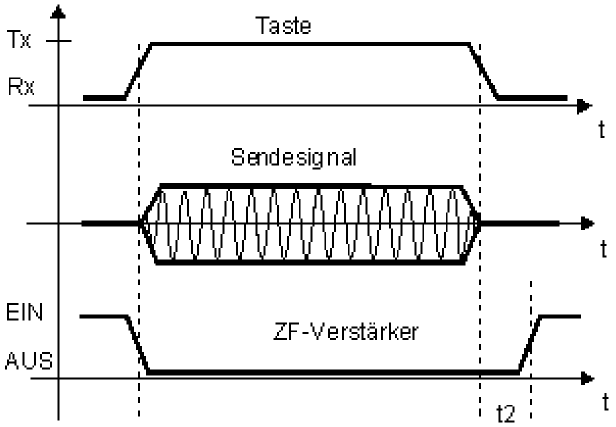
Rx/Tx control

During transmit, the IF stage is muted with two schottky diodes D1 and D2. Pulling the emitter of the first transistor pair inside the NE592 against ground via pin 2 looks somewhat brutal, but it works. The receiver is almost deaf and only the own transmit signal is audible as a side tone in the background.

The delayed starting of the crystal oscillator Q4, and hence the delayed generation of the transmit signal, reduces the intensity of on-clicks. A change from transmit to receive disables the transmit stage by disconnecting the Tx mixer and driver from ground potential. The IF stage becomes operational some delay t2 later, after C15 has been charged through IC2 and D1. This delay reduces the audibility of switch-off clicks to a tolerable level.

This Rx/Tx control circuit has been found sufficent for a medium keying speed, but requires a low key on resistance. When connecting an electronic key to this rig, a 0.47 µF capacitor between pin 1 of IC6 and the cathode of D3 noticeably improves the switch-on behavior.

Fig. 4: Rx/Tx timing



Power supply

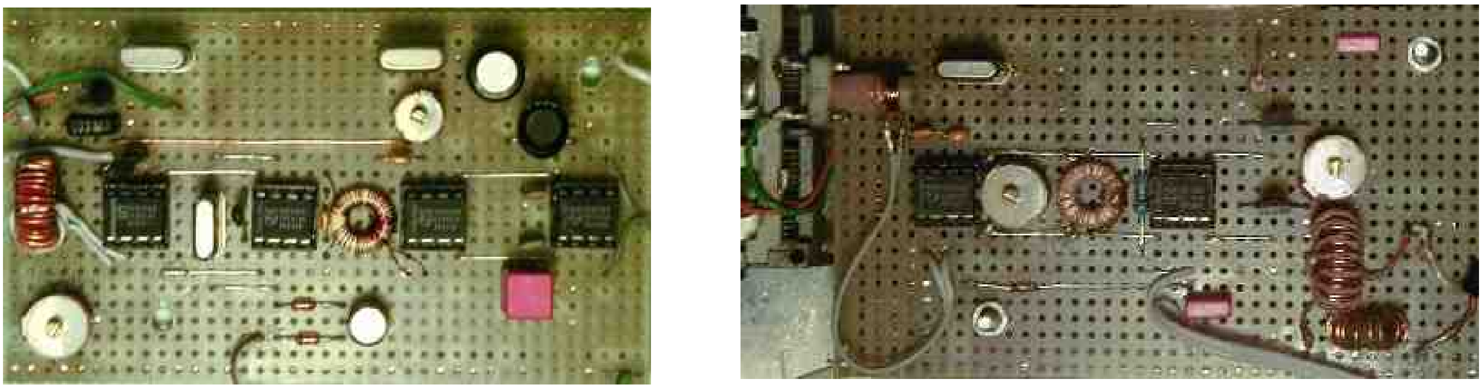
The transceiver operates in a power supply voltage range of Ub=8 ... 15 V. All broadband amps are supplied with Ub, while IC5 provides all mixers with a stabilized 6 V voltage. Diode D3 ensures that the voltage at pin 3 of IC7 can rise up to +Ub during receive mode, without causing harm to IC6. IC7 is then without supply voltage and therefore generates no additional noise.

The transceiver consumes 40 mA during receive and up to 180 mA during transmit. You can reduce the rig's current hunger by 20 mA if you replace the AF amplifier IC4 with a dual op amp, e.g., of the type TL072/082 (see chapter "selective audio amplifier"), and by using a 6 V regulator IC5 with low quiescent current.

Construction

Two strip-board PCB's with dimensions 5 cm x 10 cm were used for the initial construction. The placement of the components on these boards was nearly identical to the one in the schematic. I think, a layout design, e.g., with Eagle light shareware version, or with a graphical editor, should be a relatively straightforward matter.

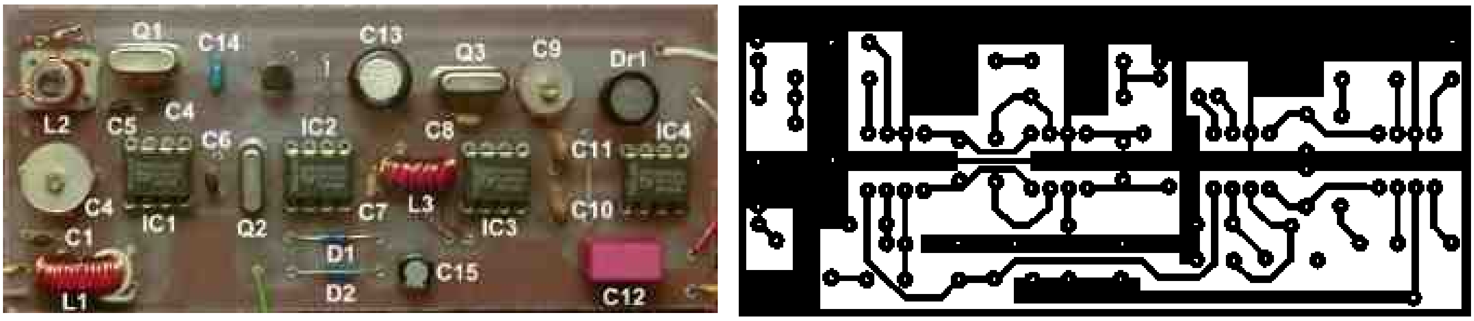
Fig. 5: Initial construction



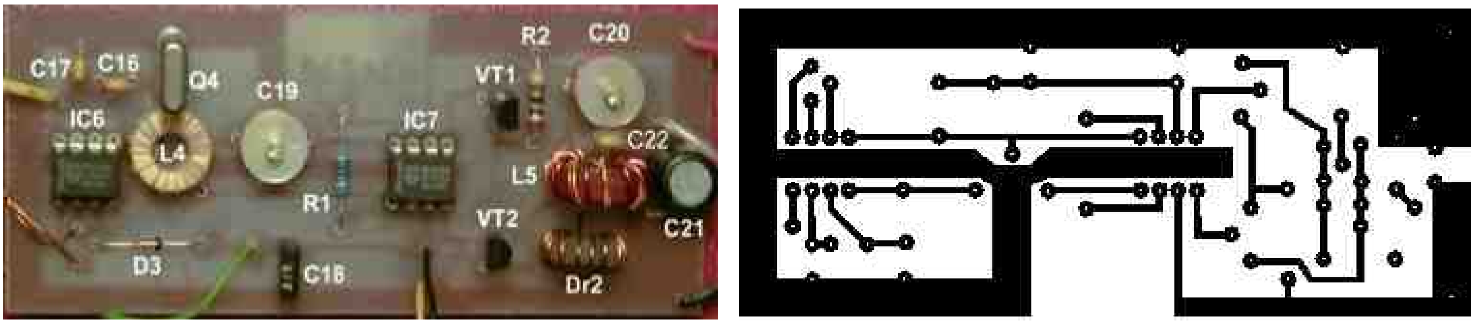
Meanwhile, a semi-professional layout is ready. Here's one picture of the component side and one of the soldering side. This PCB layout is not optimized for minimal space. The target was a simple arrangement, leaving sufficient distance between components.

Fig. 6: PCB layout and assembly

Receiver



Transmitter



Alignment

To align the transceiver, an existing main-station rig and an oscilloscope are sufficient. First tune the VXO frequency with L2 to 14.294 kHz (C3 max.) and 14.314 kHz (C3 min.). Now tune the input resonant circuit with C2 to 10110 kHz; i.e., max. volume of an amateur radio station working on this frequency. C9 determines the BFO frequency offset and thus the pitch of the AF signal.
For maximum AF output level, the frequency offset of the BFO should correspond with the resonant frequency from C12/DR1.

Next, the two trimmer capacitors in the transmitter section are adjusted, first C19 and then C20, on best sine wave and maximum output power, respectively. With a supply voltage of Ub=13.8 V, approximately 25 Vss should be delivered to a 50 ohm dummy. Subsequently, check the the value with an adapted antenna. However, the signal may look somewhat noisy, due to superimposed received signals getting in from the antenna.

Parts list

You can get all electrical and mechanical components for less than $35. You could possibly encounter some difficulties purchasing variable broadcast capacitors and high impedance headphones. But a review of the junk box of a friendly OM, a visit to a ham radio flea market, or stripping an old radio should solve this problem.

PARTS LIST

R2	10 Ohm
P1	2,2 kOhm , linear
C1	3,3 pF
C2, 9, 19, 20 5 ..	90 pF trimmer cap
C3 20 ...	320 pF variable broadcast capacitor
C4, 5, 6	56 pF
C7	330 pF
C8, 17, 22	220 pF
C10, 11	1,8 nF
C12	2,2 µF
C13	100 µF, 25 V
C14, 18, 21	0,1 µF
C15	47 µF, 16 V
C16	100 pF
L1	T50-2, 30 t primary
3 t secondary	
L2	Diameter=4 mm, Hight=12 mm,
approx. 2 x 16 t and 3 t (RF pick up)	
L3	T37-6, 35 t primary
5 t secondary	
L4	T37-6, 35 t
L5	T44-2, 5 t bifilar primary
5 t secondary	
Dr1	33 mH
Dr2	FT37-43, 16 t
Q1	14318 kHz
Q2, 3, 4	4194,3 kHz
D1, 2	BAT 42
D3	1N4148
VT1, 2	2N3906 with a small heat sink
IC1, 3, 6	NE612 DIP
IC2, 4, 7	NE592-N8 DIP
IC5	78L06
KH Headphones Ri > 1 kOhm	

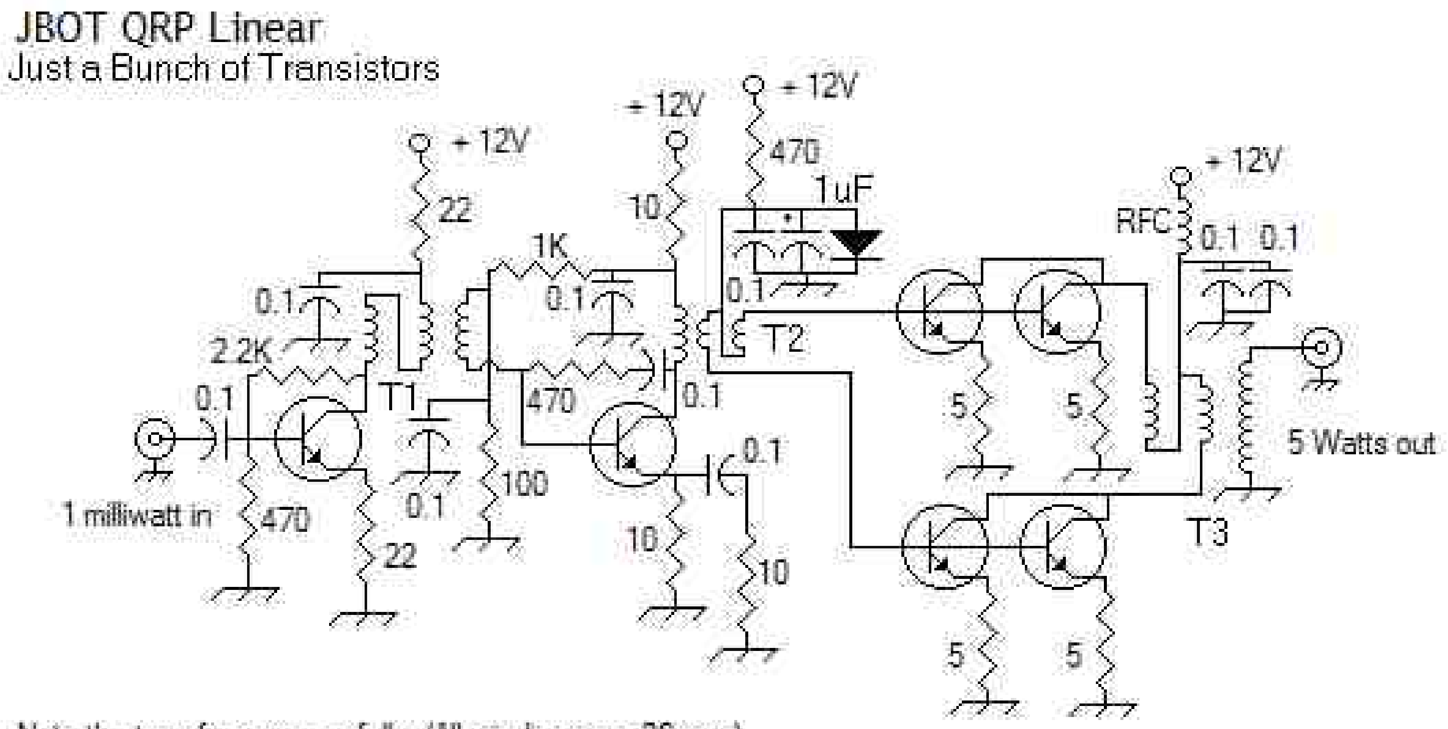
Closing Remarks

As there is enough gain available in the IF stage, this design can deviate from conventional QRP schemes by using a very lightly coupled tuned parallel resonant circuit with high Q ahead of the Rx mixer. The resulting preselection, the narrow bandwidth IF filter, and the audio stage's selectivity result in acceptable receiving performance. The output power of 1.5 W isn't much, but operating with such small power is the attraction of QRP work.

73 ! DL2YEO

JBOT
An SSB linear amplifier made from Just a Bunch of Transistors
By VU2ESE

JBOT stands for Just a Bunch of Transistors. It is a simple, stable and easy to build 5 watts linear amplifier build out of a bunch of ordinary low power NPN transistors.



Note the transformers carefully (All windings are 26 swg)

T1: trifilar winding on TV balun cores (use FT37-43 instead) 7 turns (7:7:7)
T2: primary ten turns, secondary of 3 turns bifilar (10:3:3) on TV balun core (use FT37-43 instead)
T3: Primary 5 turns bifilar, Secondary 10 turns (5:5:10), adjust turns on the secondary for best power
(Use two TV baluns stacked and taped together, or use four FT 37-43s arranged as two stacks of two each)
RFC: 10 turns on TV balun of FT 37-43

All transistors 2N2218 or equivalent, All of them with small clip-on heatsink

(c) Ashhar Farhan, 2009.
YOu may freely reproduce this circuit and the accompanying text as long as
you don't change anything and reproduce them together

Why another linear amp?

For many of us, getting hold of high power RF transistors is impossible. They are also expensive and easily blown. In the last decade, hams have pressed the power MoSFETs into use as RF devices. This has been a mixed success. The power FETs (mostly the IRF series for International Rectifiers) have very high input and output capacitance, they need higher drain voltage and they are very non-linear devices. As result, IRF device based RF power amplifiers have remained beyond easy replication for the average homebrewer.

Often, the RF power amplifiers are run flat-out without any attempt at stabilizing the performance, This has to lead to a lot of grief.

The BITX's linear amplifier painfully illustrates both these issues. The IRF510 takes a lot to get it going. Many of those who scratch build it on their own often found themselves struggling with stability and insufficient power output.
The inspiration from this power amplifier came from watching a colleague assemble an incredibly fast computer by adding together a number of ordinary hard disks and old mother boards. By stringing them all together, he was able to extract an amazing performance. When I asked him what kind of architecture this was, his reply was "It is JBOD (Just a bunch of disks)".
Paralleling transistors is not new to hams. I can recall an article by Doug (sk W1FB) in a 1970s QST where he had paralleled up six 2N3904s to generate a single watt of power. Harry's small linear amplifier pumped up to 23dBm out of general purpose NPN transistors.

In this design, the attempt is to apply these principles to higher power output from the 2N2218 variety of transistors to get 5 watts of clean, stable and linear output from a 1milliwatt signal.
What is JBOT?
JBOT stands for Just a Bunch of Transistors. This linear replaces one big RF power device with a bunch of smaller, ordinary transistors.

Each transistor handles less power, simple clip-on heat sinks are enough.
Each output transistor has its own emitter degeneration, making the configuration very stable.
Any general purpose NPN transistor rated for more than 500 mA current with metal can will work.
The drivers are biased for higher than usual current to prevent saturation and good linearity.

Circuit Design

The circuit is a quite simple and straight forward three stage amplifier.
The first stage is set to a collector current of 50mA. This is on the higher side. It drives a trifilar transformer in the output.
The second stage is biased for almost 100 mA of current. This helps preserve the signal linearity. The bias for the base is routed through the secondary of the T1. The T2 transformer is a little tricky, the primary winding is simple 10 turns while the secondary winding consists of 3 bifilar turns around the core. The secondary is wired such that it becomes a center-tapped 3 + 3 turn winding.
The final stage uses four transistors in push-pull with two transistors on each side. Each transistor has a separate emitter degeneration resistor of 5 ohms. Each side is expected to push out 3 watts. This makes the output impedance of each side 25 ohms. The two sides in push-pull will add up their impedances and we will have 50 ohms across the primary winding of T3. The T3's primary consists of 5 bifilar turns (5 + 5 = a total of 10 turns). Against this, the T3 a secondary winding is normal 10 turns.
Though the circuit is stable and works well throughout the HF spectrum (I haven't measured it below 4MHz and above 28 MHz), be careful of operating it without load. The 2N2218s cannot handle more than 30 volts across them, so never operate without a proper load.

Construction:
For a change, nothing is critical in this power amp! The transformers need to be explained. Here goes,

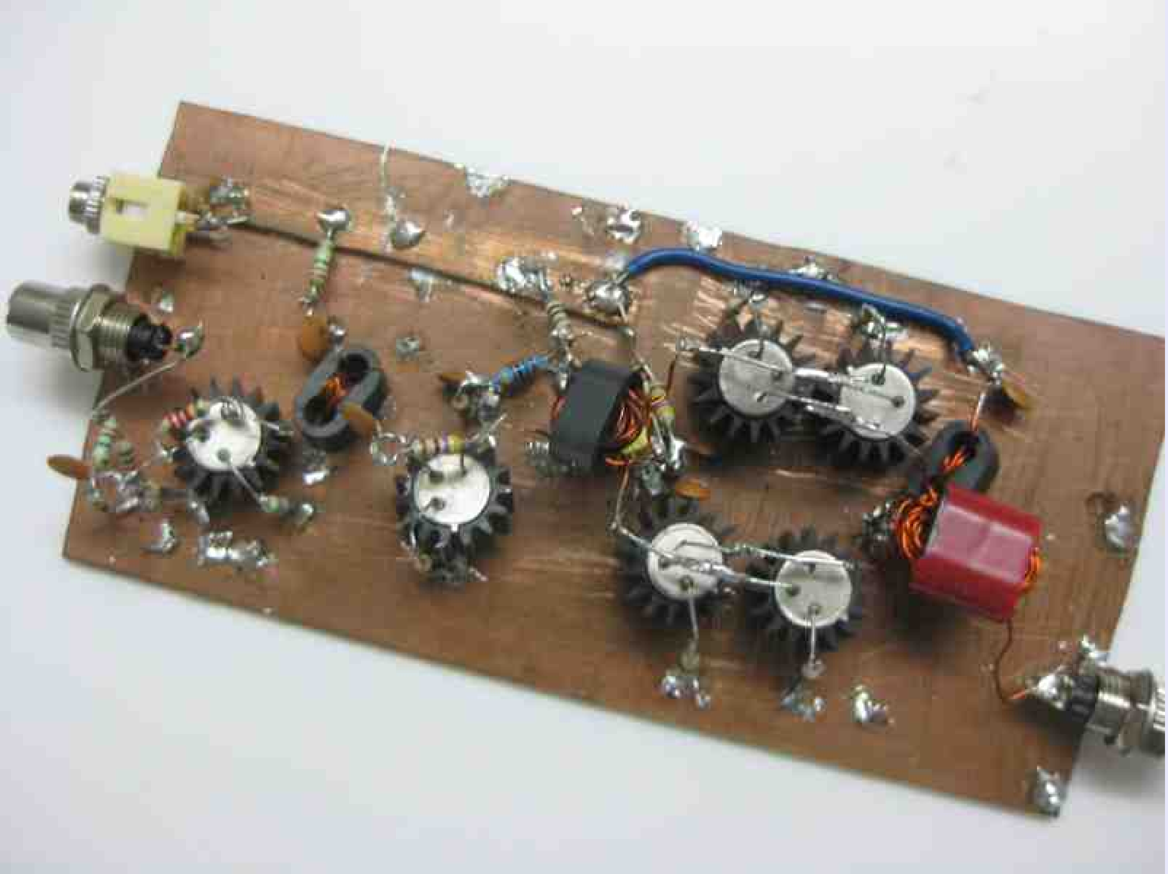
T1: This is easy, it is a trifilar winding. If you imagine that the three wires of the transformer are A-B, C-D, and E-F. Then short B and C to make the center tap. Use A and D as the opposing ends of the primary and use D-E as the secondary.

T2: First wind three turns of twisted, bifilar wire as the secondary. Over this, wind ten turns as the primary. Short the two opposing ends of separate bifilar windings as the center tap and use the remaining, opposite ends of the secondary as the outputs that go to the output transistor bases.

T3: The output transformer is constructed out of two TV baluns stacked and taped together. Alternatively, the core can be made by first stacking two FT 37-43 and forming a cylinder, then two such cylinders are held parallel to each other and taped tightly. This forms a 'double barrel' through which the windings are made.

All transistors have small clip on heat sinks. Check the picture.

Tip: The 5 ohms resistor on each of the transistors should show a little more than half a volt across it, if it doesn't you can assume it is blown.



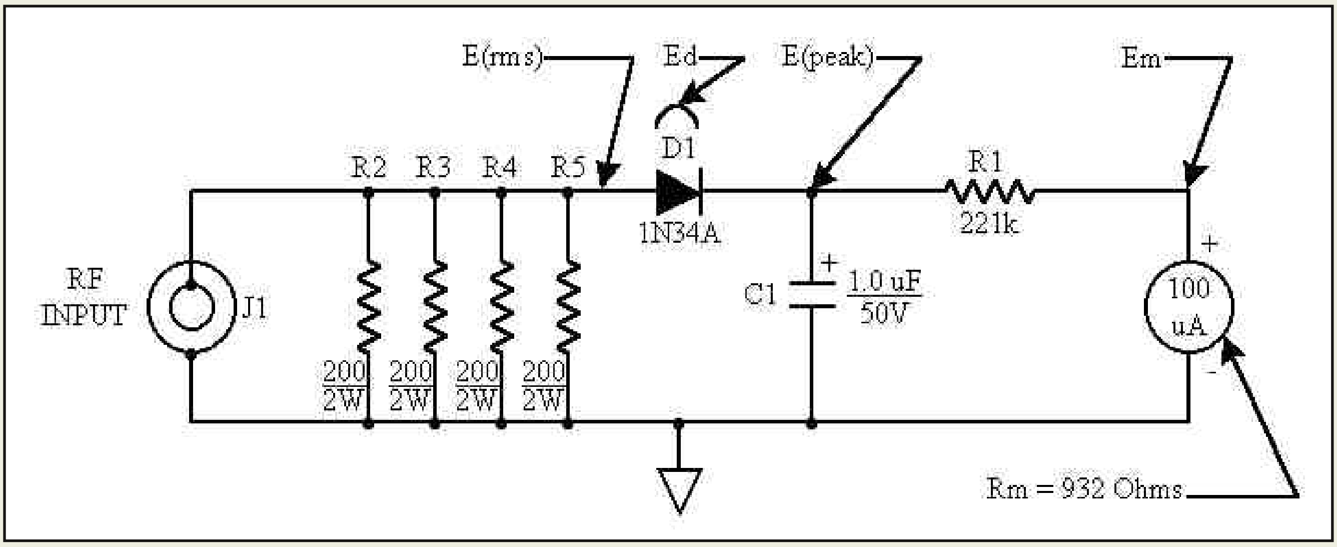
Best 73's !
VU2ESE

QRP POWER METER AND DUMMY LOAD

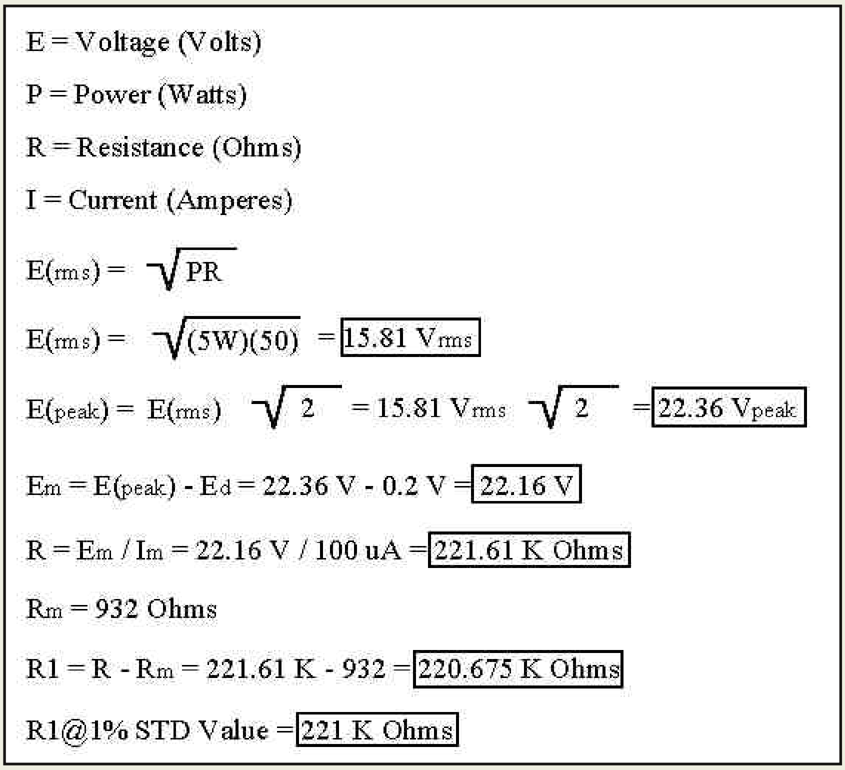
BY STEVE AA5TB

Many years ago I acquired a antique field strength meter and probe kit that did not function. However, the meter had a fast response time and a good enclosure and I thought it would make a good piece of test equipment. I designed the following circuit around what I had and it has worked out well for me.

The schematic below is of my QRP power meter and dummy (50 Ohm) load combination. The 50 Ohm load consist of resistors R2 through R5. The four 200 Ohm resistors in parallel combine to make 50 Ohms. I used four resistors because this minimizes the component lead inductance of the resistors as well as distributing the power dissipation. The meter is simply a current meter with a known internal resistance configured as an RF voltmeter. D1 rectifies the RF voltage across the load resistors and C1 charges to the peak of this rectified voltage. The capacitance of C1 is chosen so that the time constant of the RC circuit consisting of C1, R1 and the meter's resistance is long compared to the RF cycle. R1 is chosen so that when the RF power applied is 5 Watts the meter reads full scale.



The calculations are as follows:


E = Voltage (Volts)

P = Power (Watts)

R = Resistance (Ohms)

I = Current (Amperes)

$E(rms) = \sqrt{PR}$

$E(rms) = \sqrt{(5W)(50)} = \boxed{15.81\ V_{rms}}$

$E(peak) = E(rms)\sqrt{2} = 15.81\ V_{rms}\sqrt{2} = \boxed{22.36\ V_{peak}}$

$E_m = E(peak) - E_d = 22.36\ V - 0.2\ V = \boxed{22.16\ V}$

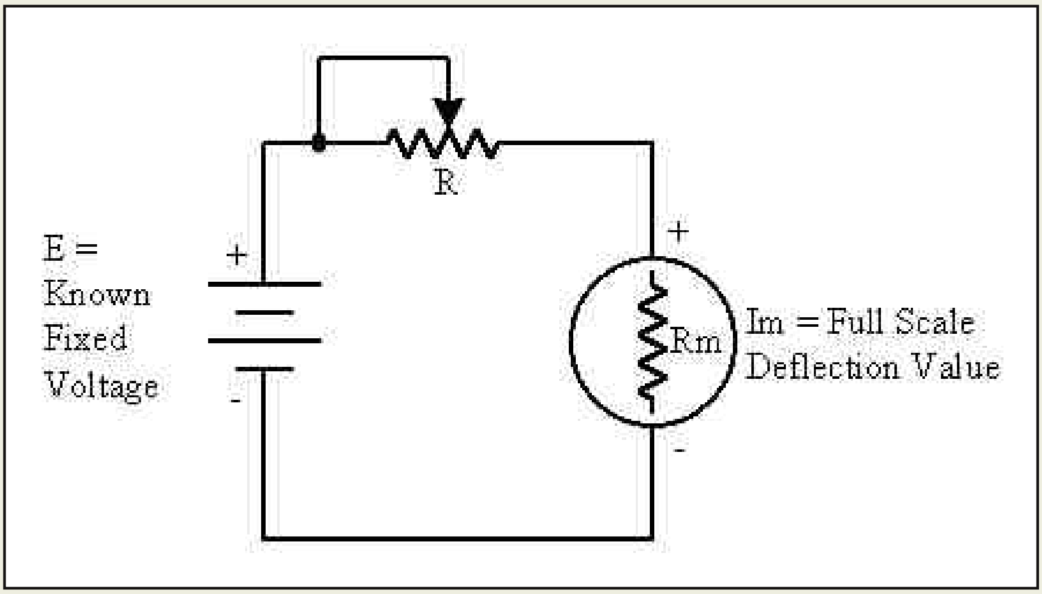
$R = E_m / I_m = 22.16\ V / 100\ uA = \boxed{221.61\ K\ Ohms}$

$R_m = 932$ Ohms

$R1 = R - R_m = 221.61\ K - 932 = \boxed{220.675\ K\ Ohms}$

R1@1% STD Value = $\boxed{221\ K\ Ohms}$

The internal resistance (Rm) can be found by constructing the simple circuit below and performing the following calculations:



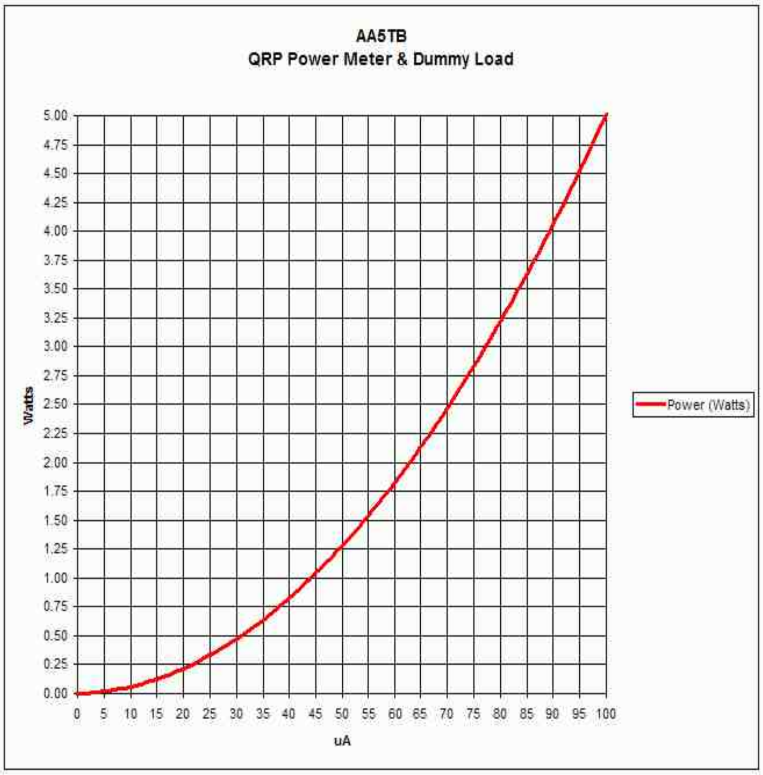
Adjust R until the meter reads it's full scale value. Be sure to start with R at it's maximum value to prevent damage to the meter. Solve the following equation to find the meter's internal resistance.

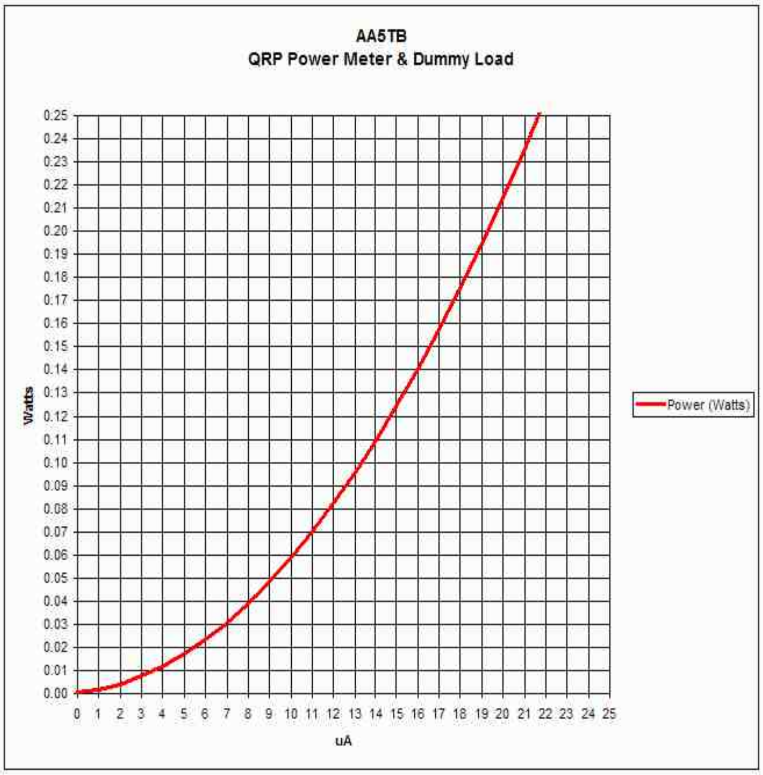
$$R_m = \frac{E}{I_m} - R$$

The formulae below are to convert the reading on the microampere meter to watts and back. Please note that the possible error caused by the diode's nonlinear response below about 100 mW has been ignored. The scale in the region of tens of milliwatts could be calibrated against a known calibrated power meter or signal source if desired. For more information regarding the very low power measurements with a diode detector you may want to check out "Square Law Diode Detectors in 50 ohm Systems" presented by Glen, VE3DNL.

$$P\ (\mathrm{Watts}) = \left\{\frac{[I(\mathrm{uA}) / 4.513 + 0.2]}{10}\right\}^2$$

$$I(\mathrm{uA}) = 4.513\ [\,10\sqrt{P\ (\mathrm{Watts})}\ - 0.2]$$





73's from AA5TB, Steve.

DX NEWS
From the Web (opdx)

5I, TANZANIA

Igor, UA3DJY, is once again back in Dar Es Salaam, and is operating from the DIT Communications Club station, 5I3A, until March 1st. He will try to be active on all bands. This past weekend Igor was on 40/20/15 meters CW and 17/15 meters SSB. QSL via RK3AOL.

5I, TANZANIA

After the Tonga operation as A35HA and his Falkland Island operation as VP8BUH, Uruguayan globetrotter Bert, CX3AN, will visit Tanzania during the first 2 weeks of February. Look for him on the bands, joined by Igor/UA3DJY and Paul/5H3PF to activate the Dar Es Salaam's Institute of Technology (DIT) radio club station 5I3A. Activity will be mostly SSB and CW using a FT-1000 MP and a log periodic between 20-10 meters.

6V7, SENEGAL

Luc, F5RAV, will be active from La Somone between February 18th and March 1st. He will operate from Jean-Francois, 6W7RV, QTH as 6W7RV. QSL via only direct to his home callsign.

AO1, SPAIN (Special Event)

Spanish operators will activate the special callsign AO1ANT between February 22-28th. Activity is to celebrate the international event "Seventh Antarctic Week". Their reference number will be WAP-180 and their activity will be on SSB, CW, PSK31 and RTTY modes, using all the amateur bands from 160-10 meters. Operators mentioned are: Javier/EC1KV, Daniel/EB1LA, Jose/EA1CUB, Jose/EA1CS, Juanjo/EA1WX, Juan/ EA1AUM, Gil/EA1HFM and Fernando/EA1GHT. QSL via EA1GHT, direct or by the Bureau. For more information, visit: http://www.qrz.com/db/ao1ant or http://www.waponline.it

C6, BAHAMAS (Correction)

Operators Bob/N4BP (C6AKQ), Mike/K4RUM (C6AUM) and Tim/N4UM (C6ARU) will be in Freeport, Lucaya, Bahamas, beginning Monday, February 15th, with Kevin/K4PG (C6APG) joining them on Thursday, February 18th. The operators will enter the ARRL International DX CW Contest (February 20-21st) as individual entries (Bob/C6AKQ on 80 meters, Kevin/C6APG on 40 meters and Mike/C6AUM possibly on 160 meters. Tim will announce his entry when he knows). Prior to the contest they will be operating on the 30/17/12 meter bands, HF bands using CW and the Digital modes. QSL direct to their home callsigns with SASE and/or LoTW.

C9, MOZAMBIQUE

David, GI4FUM (EI4DJ/3DA0DJ), who has recently returned from a visit with his family to the Mpumalanga region of South Africa which included 5 days in the Kruger National Park, announced that he is planning a DXpedition to Mozambique in October 2010, to operate in the CQWW DX SSB Contest and also possibly the JOTA. Watch his Web page for updates at: http://www.3da0ss.net

KH2, GUAM (OC-026)

Look for members of TIARA (Tokyo International Amateur Radio Association) to once again be active as homecall/KH2 between February 25th and March 1st. Operators mentioned are: Yoshiyuki/JF1TEU (AB2ST/KH2), Ken/K0EN and Toshio/KG6WTW. Activity will be on all HF bands. They will mainly be looking for Europe. QSL via JF1TEU, by the JARL Bureau or direct.

KP2, U.S. VIRGIN ISLANDS

Jeff, VA3QSL, will be active as KP2/VA3QSL from St. Thomas (NA-106, USI VI004S) and St. Croix (NA-106, USI VI002S, WLOTA LH-2477) between February 6-14th. His activity will be "vacation style" on or near the IOTA frequencies on 40-15 meters using CW, SSB and PSK. QSL to his home callsign, direct or by the Bureau.

NP3, PUERTO RICO

Sergio, NP3QE, will be active during the CQWW WPX SSB Contest (March 27-28th) as a Single-Op/Single-Band (20m) entry. QSL via his home callsign.

OR4, ANTARCTICA

Karel's, OR4TN, stay at the Princess Elisabeth Station in the Antarctica has been extended now until February 25th. His license was only valid until end of January. Thanks to the concerned authority in Belgium for their very fast reaction, the OR4TN license has now been extended also to the end of February 2010. QSL via ON5TN. Updates on OR4TN can be found regularly on:
http://www.qrz.com/db/or4tn or http://www.antarcticstation.org

PZ, SURINAME

Peter, PA1LP, will be active as PZ5LP from Nieuw Nickerie between February 26th and March 26th. Specific bands or modes were not provided, but he will be using a FT-857 w/100 watts into a G5RV and LDG Z100 tuner. QSL via eQSL.

SI9, SWEDEN (Special Event)

Special event station SI9AM from the King Chulalongkorn Memorial in Utanede, Sweden, the largest Thai Pavilion in the world outside Thailand, will be active between February 5-6th, (from 1700-1400z). Operators will be Jan/SM3CER and Jorgen/SM3FJF. The activity is to celebrate the 10th anniversary of SI9AM. They plan to operate on 80-17 meters using CW and SSB. QSL via SM3CVM, direct or by the Bureau. For more information, visit the SI9AM Web page at: http://www.si9am.se

TM7, FRANCE (Special Event)

Francois, F8DVD, will be active using the special callsign TM7AAW between February 13-28th. Activity is for the 7th Antarctic Activity Week (February 22-28th). His WAP reference number is WAP-185. Operations will be from his home QTH in Macon, the eastern part of France. A special color QSL card showing a view of Antarctica will be issued. QSL via F8DVD, by the Bureau or direct (SAE with 1 IRC or 2 USDs) to: Francois Bergez, 6, Rue Liberte, F-71000 MACON, FRANCE. For more details, please visit his Web page at: http://tm7aaw.monsite.orange.fr Or send an E-mail to him at: a.pole@laposte.net

V3, BELIZE

- Robert, N7MSU, will be active as V31SU from various locations in Belize (NA-123) between February 4-23rd. Activity will be mainly 40 and 20 meters using CW and SSB. QSL via his home callsign, direct (see (QRZ.com)) or by the Bureau.
- Art, NN7A, will be active as V31JZ/p from Turneffe Islands (NA-123) between February 24th and March 3rd. His operation will be mostly CW on 40-17 meters (including 30/17/12m), with some 160/80 meters and some ssb on 20/15 meters on the usual IOTA frequencies if possible, conditions permitting. QSL via his home callsign, by the Bureau or direct to: Art Phillips, P.O. Box 73, Eckert, CO 81418 USA.

VK9N, NORFOLK ISLAND (OC-005)

Andrew, VK2ACC, will be active as VK2ACC/9 between February 49th. Activity will be holiday style on 406 meters using SSB and possibly PSK. He will operate with only 100 watts into a Buddipole and end-fed wire. QSL via his home callsign, by the Bureau or direct.

SM3CVM Presents :

SM3CVM DX-kalender

THE DXCALENDAR

ANGOLA; D2CQ by CT1ITZ will be back to Porto Amboim in February, this time with a 5-band beam. He expects to be working in Angola for the next few years. QSL via CT1IUA (he has the paper logs and is entering them into an electronic log, then he will start sending cards out).

BAHAMAS; by N4BP (C6AKQ), W4RUM (C6AUM) and N4UM (C6ARU) will be in Freeport, Lucaya, Bahamas, beginning Monday, February 15th, with K4PG (C6APG) joining them on Thursday, February 18th. The operators will enter the ARRL International DX CW Contest (February 20-21st) as individual entries (C6AKQ on 80 meters, C6APG on 40 meters and C6AUM possibly on 160 meters. Prior to the contest, they will be operating on the 30/17/12 meter bands, HF bands using CW and the Digital modes. QSL direct to their home callsigns with SASE and/or LoTW.

HAITI; HH/F4EGS. F4EGS will be joining the International Forces and Non-governmental organizations (NGO) which are working to help the survivors in Haïti after the earthquake. He will be staying around the Port au Prince Airport area. Phil will be taking his FT-100 and a dipole and may be on the air passing ham traffic as HH/F4EGS. Amateur radio operators are asked to keep the frequencies 3720, 3977, 7045, 7265, 14265 and 14300 kHz clear for emergency traffic.

MALAWI; 7Q7HB. QSL Manager G0IAS informs that G0JMU is again heading to the warmer climate of Malawi for a period of 3 months or so. He was stuck in Nairobi but was hoping to be in 7Q-land via Lusaka on Thursday. Activity will probably be on the Digital modes and CW. QSL as usual is ONLY DIRECT to G0IAS with sufficient funds for return cards. NO BUREAU cards. NO eQSLs. Just old fashioned paper cards DIRECT!

MINAMI TORISHIMA; JD1BMM by JA6GXK from Marcus Island (IOTA OC-073, JIIA OC-073-001) until mid-February. Activity is usually on all bands and modes. QSL by the Bureau or direct (QRZ.com address). PLEASE NOTE: A report states that this may be "the last chance to make a QSO with JD1/M" for some time. The Japanese Coast Guard radio station on the island is closing down on December 1st, and the amateur radio club station will close in February.

SOUTH SHETLAND IS; DT8A tested his R7 antenna on 21 January and made a few QSOs with stations in Europe, North and South America. He is stationed at the Korean Antarctic base King Sejong on King George Island, AN- 010, and hopes to have more time to spend on the bands. QSL via HL2FDW.

SWEDEN; SI9AM by SM3CER and SM3FJF. They plan to operate CW and SSB on 80-17 metres on 5-6 February. The activity is to celebrate the 10th anniversary of SI9AM. QSL via SM3CVM, direct or via bureau.

1/2 - 31/3 CANADA; VG, XK, XJ and VX

The following prefixes will be available for use to commemorate the 2010 Olympic Winter Games in British Columbia. Canadian stations with a VA prefix can use VG, VY can use XK, VO can use XJ, and VE can use VX. Known announced activities are: VX9NC - VE9NC will operate during that time using primarily digital modes on all HF bands. QSL via his home callsign. VG7G - VE7XS will be operating during this time. See below. VG7W - VE7OM will be operating as VG7W between now and January 31st.

1/2 - 31/3 CANADA; VG7G

The Vancouver Olympics Amateur Radio Group (VOARG) will activate three special calls to celebrate the Olympic Winter Games and Paralympics which will take place in Vancouver/British Columbia in Feb/March 2010. This is the third special call. A website will go online soon, all logs will be uploaded to the LoTW. QSL cards can be sent via bureau or direct to: VOARG, 9362-206A St, Langley/BC, V1M 2W6, Canada.

3/2 - 8/2 MARIANA IS; KHØ/JA3EGZ OC-086

from Saipan. He plans to concentrate on 40 and 80 metres.

3/2 - 15/2 N. COOK Is; E51WWB OC-014

from Manihiki by AD7AF. Activity will be 40-15 meters using mainly CW. SSB and the Digital modes will be used as propagation conditions allow. Also, 80 and 10 meters will be used if conditions are favorable. He will use a K3 operating barefoot into a vertical and wire antennas. QSL via AD7AF.

4/2 - 10/2 HAWAII; N7I

from Honolulu (Oahu Island HI-008S) by WL7MY and KL7JR. Activity is in celebration of the 16th anniversary of the U.S. Islands Awards program. Main frequency will be 28460 or 14260 kHz. They use a TS-50 and a vertical on mag mount. QSL Manager is KL7JR. For additional info: http://www.usislands.org/

6/2 - 14/2 OGASAWARA;

JM1YGG/JD1, JA2ZL/JD1, JD1BMV and JD1BNB AS-031 from Chichijima. They will operate CW, SSB and RTTY on 80-12 metres. QSLs direct or bureau, JM1YGG/JD1 via home call, JA2ZL/JD1 via home call, JD1BMV via JK1EBA and JD1BNB via JA3MCA.

6/2 - 19/2 TEMOTU PROVINCE;

H4ØFN (CW), H4ØFK (Digi-mode) and H4ØMS

(SSB) OC-065 from Ngarando/Reef Islands by DK9FN, DG1FK and DL2GAC. Activity will be focused on 160/80m (using their famous LOBSTER 2-element multi-band vertical), but they will operate on 160-6 meters depending on the band conditions. QSL H40FN via HA8FW, H40MS via DL2GAC and H40FK via DG1FK. QSL cards will be sent out automatically via the Bureau. However, for those who want to receive their QSL cards directly, a minimum of 2 USDs for postage is requested. Donations are most welcome. For more details, updates and pictures/details of Siegfried's last visit to Temotu, please visit the following Web page at http://hari-ham.com/seiten/h40fn_expedition/index.php

8/2 - 5/3 ANTARCTICA TOUR; VP8, VP8/G, VP8/H, VP8/O and KC4

W2APF will be traveling on board the ship "National Geographic Explorer" heading to the Antarctica region. He is expected to be operating under the following callsigns (specific dates were not provided):

W2APF/C6A/MM - While on board the ship "National Geographic Explorer"; http://www.expeditions.com/Ship_Detail92.asp?Ship=20/

W2APF/KC4 - While in Antarctic territories - VP8DML - While in the territory of the Falkland Islands (VP8) including South Shetlands Islands (VP8/H), South Orkney's Islands (VP8/O) and South Georgia Islands. QSL all activity via W2APF.

9/2 - 22/2 BONAIRE, CURACAO; PJ2/W8AV SA-006
from Island of Curacao. He plans to be on 160-10 meters using CW and RTTY. He will also be one of the PJ2T operators during the ARRL International DX CW Contest (February 20-21st) and possibly in the CQWW WPX RTTY Contest (February 13-14th), depending on the station maintenance work schedule.

9/2 - 24/2 FRENCH POLYNESIA; TX4T OC-046
from Tahiti by F6BEE, G3TXF and VE2TZT joining FO8RZ (F5PHW). They will include participation in the CQ WW WPX RTTY and ARRL CW DX Contests. They will be active on 160-10 metres CW, SSB and RTTY, with a focus on 160 and 80 metres. Plans are to have two complete stations QRV simultaneously. QSL via G3TXF, direct or bureau. The logs will be uploaded to LoTW. Further information can be found at http://www.fo2010.org/

10/2 - 16/2 PALAU; T88SM and T88HS OC-009
from Koror by JA6EGL and JA6KYU. They plan to operate CW and SSB on 80-10 metres. QSL via home calls, direct only.

10/2 - 23/2 GRENADA; J38XX
by DL5AXX. Activity will be focused on the lower bands, but also in the ARRL International DX CW Contest (February 20-21st) as a Single-Op/All-Band entry. QSL via home call, direct or bureau (the OQRS for bureau cards can be found at http://www.dl5axx.de/dxlog/
A logsearch will be available at http://www.clublog.org/

12/2 - 25/2 KENYA; 5ZØH AF-040 and AF-067
from Lamu Island and Wasini Island by 5Z4ES, IK8TEO, IK8UHA and IK8VRH are planning to be in Kenya and activate two IOTA islands. QSL via LoTW, by the Bureau or direct to IK8VRH: P.O. Box 173, I-80016 Marano (NA), Italy. Visit the 5Z4H Web page at http://5z4h.sitonline.it/

16/2 - 25/2 NICARAGUA; YN2WW, YN2DD, YN2TX and YN2LJ
by AC8W (YN2WW), K8DD (YN2DD), KB8TXZ (YN2TX) and N8LJ (YN2LJ). Their activity will include the ARRL DX CW Contest (February 20-21st) as a Multi-Single entry using the callsign YN2WW. Operators will be active on all bands before and after the contest. Look for: YN2DD on CW and RTTY 17m, YN2WW primarily on 30m, YN2LJ on the low bands CW and YN2TX on SSB. QSL YN2DD and YN2WW via K8DD. QSL YN2TX via KB8TXZ and YN2LJ via K8ESQ.

17/2 - 23/2 BELIZE; V31RR
by AA4NC. Activity will be on the HF bands including 30/17/12m using CW, SSB and RTTY. His activity will also include the ARRL DX CW Contest (February 20-21st) as a Single-Op entry. QSL via his home callsign or LoTW.

17/2 - 10/3 TOKELAU IS; ZK3 OC-048
by N7OU and W7YAQ. The exact dates of their operation may change because the only access to the Tokelau Islands is by boat. Their activities will include an entry in the ARRL International DX CW Contest (February 20-21st). Operations will be on 160-10 meters but mainly on CW, with some SSB and RTTY, using 100 watts and vertical antennas. Also, look for them to operate from Apia, Samoa (5W), before they sail to Tokelau and after between February 10-16th and March 11-15th. All callsigns are to be announced. QSL via their home callsigns.

18/2 - 22/2 NICARAGUA; YN2GY
by K9GY during the 2010 ARRL DX CW Contest (February 20-21st). Outside of the contest, look for CW activity on 30/17/12 meters. QSL via LoTW or to his home callsign, direct or by the bureau.

- 1/2 S. COOK IS; E51WWA OC-013
from Rarotonga Island by AD7AF. QSL via homecall, see QRZ.com.

- 2/2 LIBERIA; EL8RI
by ZS6RI. This will be his last trip to Liberia, as he has been transferred to another country in Africa where he expects to be working on a six week on, six week off schedule.

- 2/2 JUAN FERNANDEZ Is; XRØZA SA-005
by JA8BMK. He plans to operate CW, SSB and digital modes on 160-10 metres, with a focus on the low bands.

- 3/2 FERNANDO DE NORONHA; PY2XB/PYØF SA-003
Activity will be on all HF bands using CW, SSB, RTTY and PSK. His activities will include the CQ 160M CW Contest (January 29-31st), but he will sign as PQ0F. QSL via PT7WA.

- 4/2 DOMINICA; J79WWW
by KK4WWW, back to Dominica for a mission trip. She is active as much as possible during her spare time. QSL via N4USA.

- 5/2 AUSTRAL I; TX3D OC-014
from Raivavae by DL1AWI, DL3APO and DL5XU. They plan to operate on all bands, with a special emphasis on 160-30 metres. The German team started activity from without essential parts of their equipment, which were lost in transit. QSL FO/DL3APO via DL3APO, QSL TX3D via DL1AWI. Further information, logsearch included, can be found at HTTP://dl9awi.de/fo.htm

- 8/2 UNITED ARAB EMIRATES; A6/VE6LB
Activity will be holiday style with low power using wire antennas and mainly on 40-15 meters CW. QSL direct via his home callsign or LoTW.

- 10/2 CANARY ISLANDS; EA8/homecall AF-004
from Tijoco Bajo, Tenerife Island by ON5JV and ON6AK. Activity will be on 40-10 meters during their evenings. They plan to use 100 watts into a vertical 14AVQ. QSL via their home callsigns, the bureau is preferred.

- 12/2 ST. VINCENT; J8/K2CM NA-025
from the Grenadine island Bequia. He will work in CW/SSB mostly on 20m and maybe also in CW on 40m. QSL via homecall (direct/bureau).

- 14/2 TUNISIA; TS8RW
Activity is to celebrate the "Ariana Rover Scout Leader" (ARSL) organized event called ROVER WEEK. This is an activity for adults (Rover Scout Leader) which include amateur radio workshops, cultural activities and conferences on "Radio Scouting - Service for Others".

- 20/2 ANTARCTICA; KC4USV AN-011
from McMurdo Station by K7MT. He will be on the HF bands on 14243 kHz, Sundays at 0000z. He will also be active on PSK-31 (on 14070 kHz) and CW (14043 kHz) if time permits. He has also mentioned that he will take an Arrow II antenna and his Kenwood TH-7 to work the Amateur Satellites into VK and ZL land. He also has plans to be on APRS VHF/HF with a Kam Plus, so you might just see him driving around on the Ross Ice Sea as K7MT-7 on APRS. QSL via K1IED. Visit his home page for some interesting pictures at http://www.mt.net/~k7mt/

- 23/2 CHILE; CE1/K7CA
He will be very active on 160m again and intends to take part in the Stew Perry Topband Distance Challenge and the CQ 160m CW Contest. He is running 1 kW into a 3L SteppIR Yagi and a vertical for the lowbands. He is working almost only in CW, but SSB QSOs may be arranged via sked. Unfortunately his QSL manager NW7O confirms only direct.

- 28/2 BELIZE; V31YN and V31GW
by DJ4KW (V31YN) and DK9GG (V31GW), including a number of contests. On 2-7 February look for V31YN/p to be active from NA-180. QSL via home call (direct or bureau), or LoTW.

18/2 - 26/2 MOROCCO; CN2MR
by MJ0ASP. Activity will be on the HF bands using mostly CW. He likes to contest, so he will probably be in the ARRL International DX CW Contest (February 20-21st). QSL via his home callsign (see QRZ.com).

20/2 - 27/2 CHRISTMAS I; VK9X/G6AY OC-002
by G3SWH and G3RTE. They will operate CW only on 80-10 metres (no activity on 160 metres). Propagation permitting, they plan to have two stations on the air for as many hours every day as is possible. QSL via G3SWH, direct or bureau (requests for bureau cards can be submitted by using the relevant form on. Please visit http://www.g3swh.org.uk/christmas-island.html for further information.

22/2 - 3/3 BRUNEI DARUSSALAM; V88/DL7JAN
from Bandar Seri Begawan. Activity will be on 160-10 meters using CW, SSB and RTTY. QSL via DL7JAN, by the Bureau or direct.

24/2 - 3/3 BELIZE; V31JZ/p NA-123
from Turneffe Islands by NN7A. Activity will be holiday style. QSL via his home callsign, by the Bureau or direct to: Art Phillips, P.O. Box 73, Eckert, CO 81418 USA.

25/2 - 28/2 UNITED STATES OF AMERICA; K NA-066
from Santa Catalina Island (USI CA016S, WLOTA LH-2912, Los Angeles County, California). Activity will be on the ususal IOTA frequencies, mostly 20 meters SSB, using CW, RTTY and/or PSK31. QSL direct to K6PV (Palos Verdes Amateur Radio Club) or by the Bureau. They will have a special K6PV IOTA card for this activation.

28/2 - 13/3 MONTSERRAT; VP2MPR and VP2MPL
by W1USN and AA1M. W1USN will work mainly SSB and PSK31. AA1M will operate mostly CW. QSL both operators via their home callsigns.

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2/3 - 11/3 ST. LUCIA; J68JA NA-108
by W5JON. Activity will be on 160-6 meters (including 60m) on SSB. He will use an ICOM IC-7000, KL-400 Amp (350 watts) into the following antennas: ZS6BKW design multiband dipole, and a 3 element yagi on 6m. Activity will also include the ARRL International DX Phone Contest (March 6-7th) as a Single-Op/All-Band entry. QSL via W5JON.

3/3 - 10/3 COCOS (KEELING) IS; VK9 OC-003
by NL8F. Activity will be on 80-10 meters, plus 6 meters, and an entry in the ARRL International DX Phone Contest (March 6-7th). He will be using a vertical antenna. He does not know what his callsign will be, but he is hoping for VK9COF (or possibly VK9C/NL8A). QSL via K8NA.

CQ SIX - 50 MHz DX NEWS BY OZ6OM

Guinea-Bissau, J5. Laci, HA0NAR and his wife Susan will be visiting Guinea-Bissau. Look for J5NAR on 7-13 February. Expect activity on the HF bands CW, SSB and RTTY, with a focus on the low bands during operations from the mainland. Activity on 6 and 2m will depend on the local situation. QSL via HA0NAR, direct or bureau.

Dodecanese, SV5. Willi, DJ7RJ will be active from Kos Island from 24 February until 17 March. He will operate CW and SSB on 160-6 metres, with a focus on the low bands. QSL via home call.

Australia, VK. The Hellenic Amateur Radio Association of Australia will be active as VI2BI from Broughton Island on 5-7 February. The team will include Tommy/VK2IR, Peter/VK2NN, Allan/VK2GR, Raffy/VK2RF, Paul/VK2HV and John/VK3JHA, and they plan to operate CW, SSB and RTTY on 160-6 metres. QSL direct to VK2CL. They have a web page at www.vi2bi.blogspot.com

Denmark, OZ. Hello Guys, I (OZ6OM) will be QRV in the Nordic Activity Contest Thursday evening (February 11 th.) between 18 and 22 UT. I intend to be QRV from JO55EJ at an alternate QTH running 100 w. into a 5 or 6 element Yagi.
In any case I intend to keep activity round 50.173 MHz (SSB/CW) and 50.230 MHz / 50.236 (JT6m).
(The reason I´m operating this way is, my attempt at setting up reasonable antennas at my QTH have so far ended in a law suit (Latest, case appealed to the domestic court after a no from the council review board). - so the antenna at my QTH is very modest at this time. The given permit says maximum hight at 1.8 m. agl.)
Hope to see You down the log ... vy 73 de Matt OZ6OM

Temotu, H40. Operators Siegfried/DK9FN, Bernhard/DL2GAC and Hans-Peter/DG1FK will be active as H40FN (CW), H40MS (SSB) and H40FK (Digi-mode), respectively, from Ngarando/Reef Islands between February 6-19th (2010). Activity will be focused on 160/80m (using their famous LOBSTER 2-element multi-band vertical), but they will operate on 160-6 meters depending on the band conditions. QSL H40FN via HA8FW, H40MS via DL2GAC and H40FK via DG1FK. QSL cards will be sent out automatically via the Bureau. However, for those who want to receive their QSL cards directly, a minimum of 2 USDs for postage is requested. Donations are most welcome. For more details, updates and pictures/details of Siegfried's last visit to Temotu, please visit the following Web page at: http://hari-ham.com/h40fn

Maledives Islands, 8Q. Dan, HB9CRQ, did send MMMonVHF an first Pre-Announce for the upcoming EME Expedition to th Maledives Islands in march 2010. Operator will be of Pierre, HB9QQ and Dan, HB9CRQ and maybe other Members of the HB9Q Team. Mainwork will be 144 MHz but as well 6m and 23cm band will be joined. If there are more Operators maybe as well 70cm will be activated (if any OP will have interest
to join the Team please pass an info to Dan, HB9CRQ). Flights and Bungalows are booked already. Soon MMMonVHF will spread out more detailed informations (http://www.mmmonvhf.de/latest.php?id=2896) tnx to Dan, HB9CRQ, Team of HB9Q direct to MMMonVHF

St. Lucia, J6. Look for John, W5JON to be active as J68JA from Marigot Bay, island of St. Lucia, Grid FK93 on 2-11 March, 2010. QRV 160-6 meters (also 60m), including a Single-Op entry in the ARRL DX SSB Contest (6-7 March). His equipment will consisst of an ICOM IC-7000, KL-400 Amp (350 watts); Antennas: Alpha Delta DX-LB and DX-EE Dipoles, and 3 Element yagi on 6m. As in the past, XYL Cathy (W5HAM) will be very busy pool side. QSL via home call. (Andy N8OFS GOT6???)

Release. ‘Bawdsey Research Station’ Commemorations 2010
GB75BRS Special Event Stations JO01QX
In recognition of the historic events that took place in 1935 and 1940 which played a significant part in Britain’s war effort, Bawdsey Manor will be activated on three separate occasions during 2010.
During its time as the radar research centre and as an operational station for Chain Home radar, it was known by the acronym BRS – Bawdsey Research Station. Special event callsigns with BRS as the suffix have been applied for to recognise this.
Over the weekend of 26 to 28 Feb 2010, we will be on the air on HF, 6m and VHF, operating CW, SSB and possibly some digital modes too. The callsign requested is GB75BRS, since this operation will commemorate the 75th anniversary of the Daventry Experiment, which resulted in radar development in the UK being based first at Orfordness, then at Bawdsey.
Later in the year we will operate on two weekends to commemorate the 70th anniversary of the start and end of the Battle of Britain in 1940. The callsign GB70BRS has been requested. These weekends will be 5/6 June, and 18/19 Sept. Operating bands and modes will be as for the February event.
Members of the public, and students from the school now based at the Manor, will be welcomed at any of the events, where there will also be display materials relating to Bawdsey’s history during this period.
A special QSL card will be issued to those making contact with either of the stations, and a parchment certificate will be available on request to stations who make contact with both callsigns – information about the stations, operation and QSL arrangements can be found on our web site at http://bawdseyresearchstation.org.uk
50 MHz Operators are M1DUD / OZ3RE and 2E0IAF / OZ9SP. Modes of Operation on 50 MHz will be SSB/CW/WSPR/JT6M (MS)/ RTTY and possibly a demonstration on SSTV if time permits!
73 de OZ3RE

Maledives Islands, 8Q. More. Here is some preliminary information about the upcoming 8Q7QQ 6m EME DXpedition March 24-31, 2010. Pierre HB9QQ has been very busy optimizing the 6m EME station he will be taking next spring for his JT65A operation. He will be using a low noise external preamp, 500w Falcon amplifier and a 7 element yagi overlooking the ocean. Watch for details to be coming in the future, but plan now to be available for this great chance to contact a rare one! There are some great horizon-only windows for NA stations with Pierre while he has ground gain on the horizon at the same time! EME CNDX also are optimum during their period of operation ;-) GL and VY 73, Lance (MMMonVHF Newsletter 2009-10-02)

Guadeloupe, FG. Serge FG/F6AUS, is working on 160m-6m from Guadeloupe until March 2010. He will sign TO4D in the WWDX CW Contest. QSL via homecall.

Tonga, A3, [Update]. Paul, A35A, informs OPDX on December 2nd, that Dave/W6ZL (A35KL) was leaving Ha'apai on December 3rd. Dave should be in New Zealand by the time you read this. Paul states, "Dave probably won't be QRV again from Tonga until perhaps April 2010. He may be able to get on the air from ZL, when he visits some of his radio buddies down there. I'll let him fill you in if/when that happens." He also mentions, "All antenna work here at A35A is 99% complete. The SteppIR yagi (w/6m add-on) is up and working fine; the 4 element 6m beam has been cleaned up and is working fine; the SteppIR BigIR vertical (w/80M add-on) is up, but I still have some tweaking to do on the elevated radials to get a good impedance match. I intend to be more active from now on, especially on 80m. I want to finish up on 5BDXCC before my QSL manager (W7TSQ) gets tired of waiting! HI... The 6m Es season is fast approaching down here, so that should provide some excitement....especially since both North and South Cook Islands (E51CG and E51WL) are now QRV. Incidentally, our announced move to Vava'u has been postponed indefinitely, and perhaps cancelled altogether. A35A remains QRV from Lifuka Island, Ha'apai until further notice. QSL via W7TSQ or LoTW."

Bahama Isl., C6. Tom, C6ANM is active since January through April 160-6 metres CW and SSB, including participation in the CQ WW 160-Meter DX Contests (CW and SSB) and in the ARRL DX SSB Contest. He will primarily operate from Nassau. QSL via LoTW (preferably) or direct to WA2IYO.

Build A 10 Amp 13.8 Volt Power Supply
By N1HFX

Sometimes amateurs like to home-brew their power supplies instead of purchasing one off the shelf at any of the major ham radio retail dealers. The advantage to rolling your own power supply is that it teaches us how they work and makes it easier to troubleshoot and repair other power supply units in the shack. It should be noted that there is no real cost advantage to building your own power supply unless you can get a large power transformer and heat sink for a super low price. Of course rolling our own gives us the ability to customize the circuit and make it even more reliable than commercial units. The circuit in Figure 1 will give us 10 amps (12 amps surge) with performance that equals or exceeds any commercial unit. The circuit even has a current limiting feature which is a more reliable system than most commercial units have.

Just like other commercial units, this circuit uses the LM723 IC which gives us excellent voltage regulation. The circuit uses 3 pass transistors which must be heat sinked. Resistor R9 allows the fine tuning of the voltage to exactly 13.8 volts and the resistor network formed by resistors R4 through R7 controls the current limiting. The LM723 limits the current when the voltage drop across R5 approaches .7 volts. To reduce costs, most commercial units rely on the HFE of the pass transistors to determine the current limiting. The fault in that system is that the HFE of the pass transistors actually increases when the transistors heat up and risks a thermal runaway condition causing a possible failure of the pass transistors. Because this circuit samples the collector current of the pass transistors, thermal runaway is not a problem in this circuit making it a much more reliable power supply.

The only adjustment required is setting R9 to the desired output voltage of anywhere between 10 and 14 volts. You may use a front panel mounted 1K potentiometer for this purpose if desired. Resistor R1 only enhances temperature stability and can be eliminated if desired by connecting pins 5 and 6 of IC-1 together. Although it really isn't needed due to the type of current limiting circuit used, over voltage protection can be added to the circuit by connecting the circuit of Figure 2 to Vout. The only way over voltage could occur is if transistors Q2 or Q3 were to fail with a collector to emitter short. Although collector to emitter shorts do happen, it is more much more likely that the transistors will open up when they fail. I actually tested this and purposely destroyed several 2N3055's by shorting the emitters to ground. In all cases the transistors opened up and no collector to emitter short occurred in any transistor. In any event, the optional circuit in Figure 2 will give you that extra peace of mind when a very expensive radio is used with the power supply.

The circuit in Figure 2 senses when the voltage exceeds 15 volts and causes the zener diode to conduct. When the zener diode conducts, the gate of the SCR is turned on and causes the SCR to short which blows the 15 amp fuse and shuts off the output voltage. A 2N6399 was used for the SCR in the prototype but any suitable SCR can be used. While over voltage protection is a good idea, it should not be considered a substitute for large heat sinks. I personally feel the best protection from over voltage is the use of large heat sinks and a reliable current limiting circuit. Be sure to use large heat sinks along with heat sink grease for the 2N3055 transistors.

I have used this power supply in my shack for several months on all kinds of transceivers from HF, VHF to UHF with excellent results and absolutely no hum. This power supply will be a welcome addition to your shack and will greatly enhance your knowledge of power supplies.

73's DE N1HFX

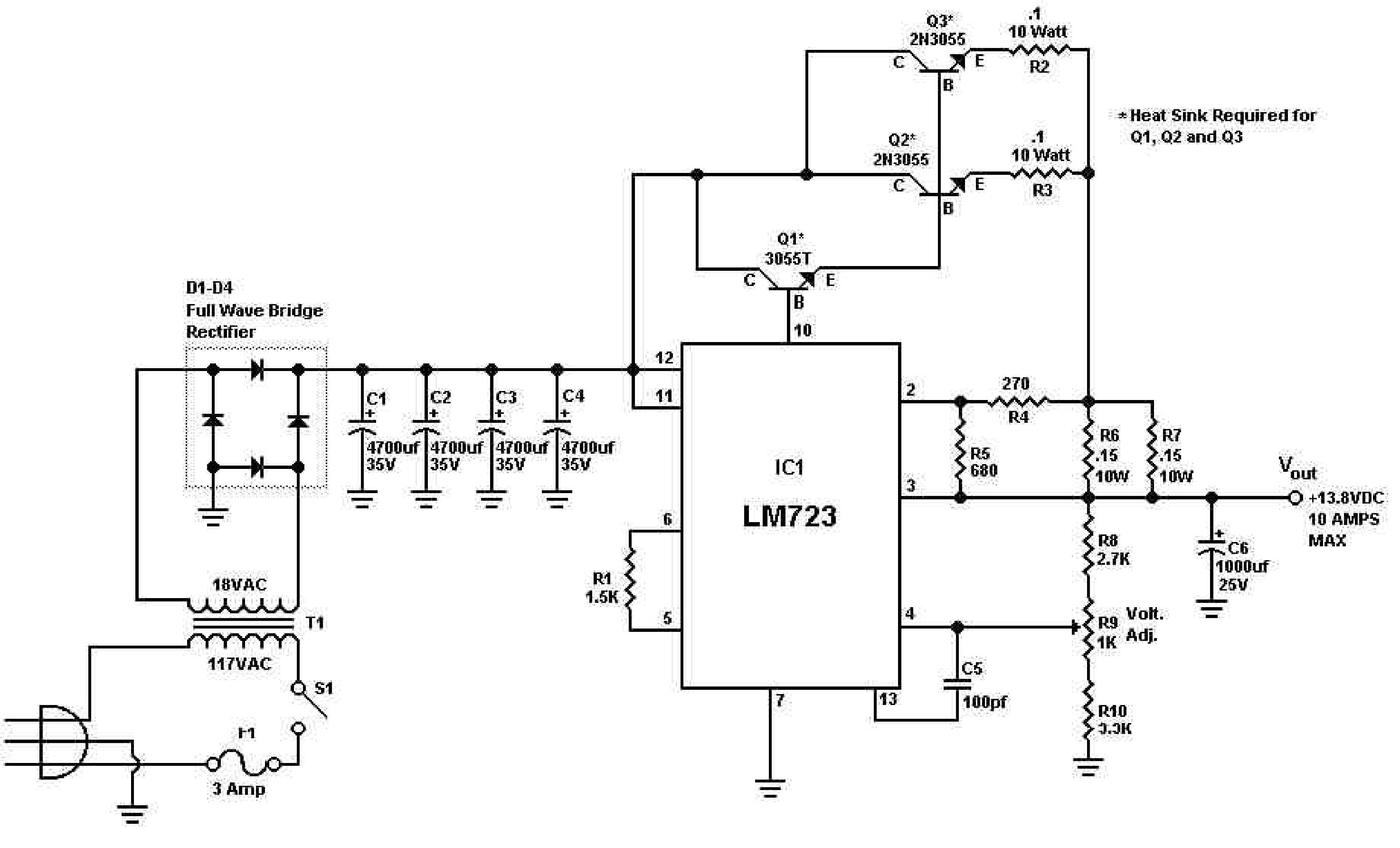


Figure 1

Parts List

R1 1.5K ¼ Watt Resistor (optional, tie pins 6 & 5 of IC1 together if not used.)
R2,R3 0.1 Ohm 10 Watt Resistor (Tech America 900-1002)
R4 270 Ohm ¼ Watt Resistor
R5 680 Ohm ¼ Watt Resistor
R6,R7 0.15 Ohm 10 Watt Resistor (Tech America 900-1006)
R8 2.7K ¼ Watt Resistor
R9 1K Trimmer Potentiometer (RS271-280)
R10 3.3K ¼ Watt Resistor
C1,C2,C3,C4 4700 Microfarad Electrolytic Capacitor 35 Volt (observe polarity)
C5 100 Picofarad Ceramic Disk Capacitor
C6 1000 Microfarad Electrolytic Capacitor 25 Volt (observe polarity)
IC1 LM723 (RS276-1740) Voltage Regulator IC. Socket is recommended.
Q1 TIP3055T (RS276-2020) NPN Transistor (TO-220 Heat Sink Required)
Q2,Q3 2N3055 (RS276-2041) NPN Transistor (Large TO-3 Heat Sink Required)
S1 Any SPST Toggle Switch
F1 3 Amp Fast Blow Fuse
D1-D4 Full Wave Bridge Rectifier (RS276-1185)
T1 18 Volt, 10 Amp Transformer Hammond #165S18 (Digi-Key HM538-ND)

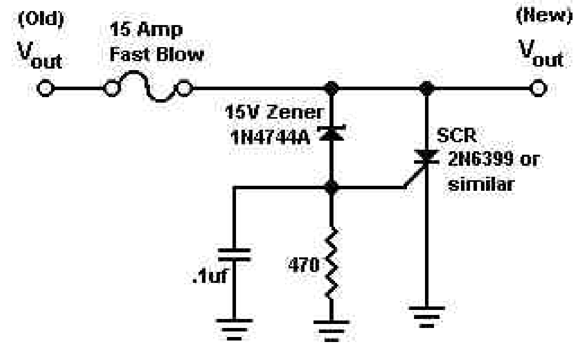
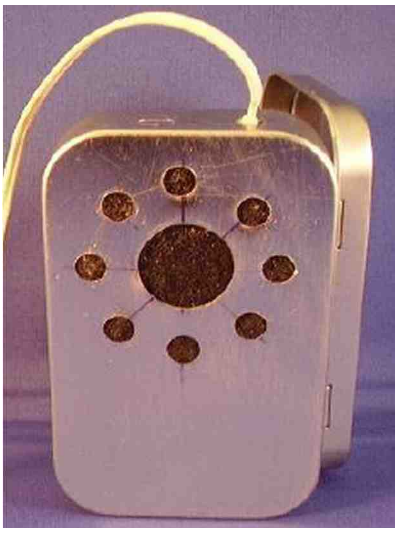


Figure 2

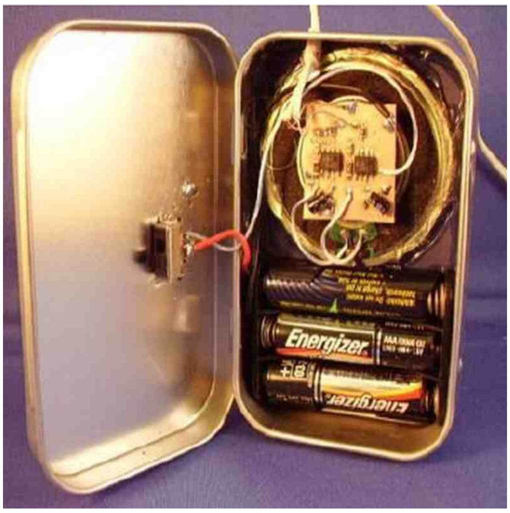
AMPLIFIED SPEAKER FOR MP3 PLAYER

By Slo-go'en

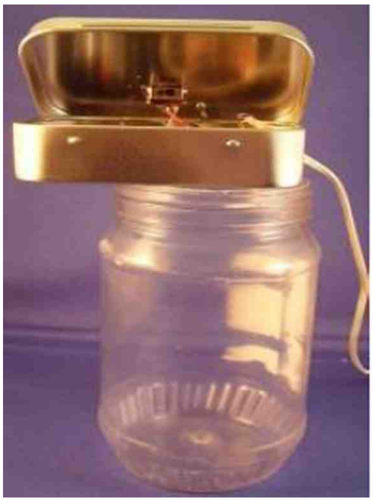
This amplified speaker fits into an Altoids sized tin box, runs on three “AAA” batteries, weighs 3.4 oz (with batteries) and can produce room filling sound with remarkable fidelity when combined with an acoustic “bass enhancing” resonator (empty plastic peanut butter jar).



front



inside



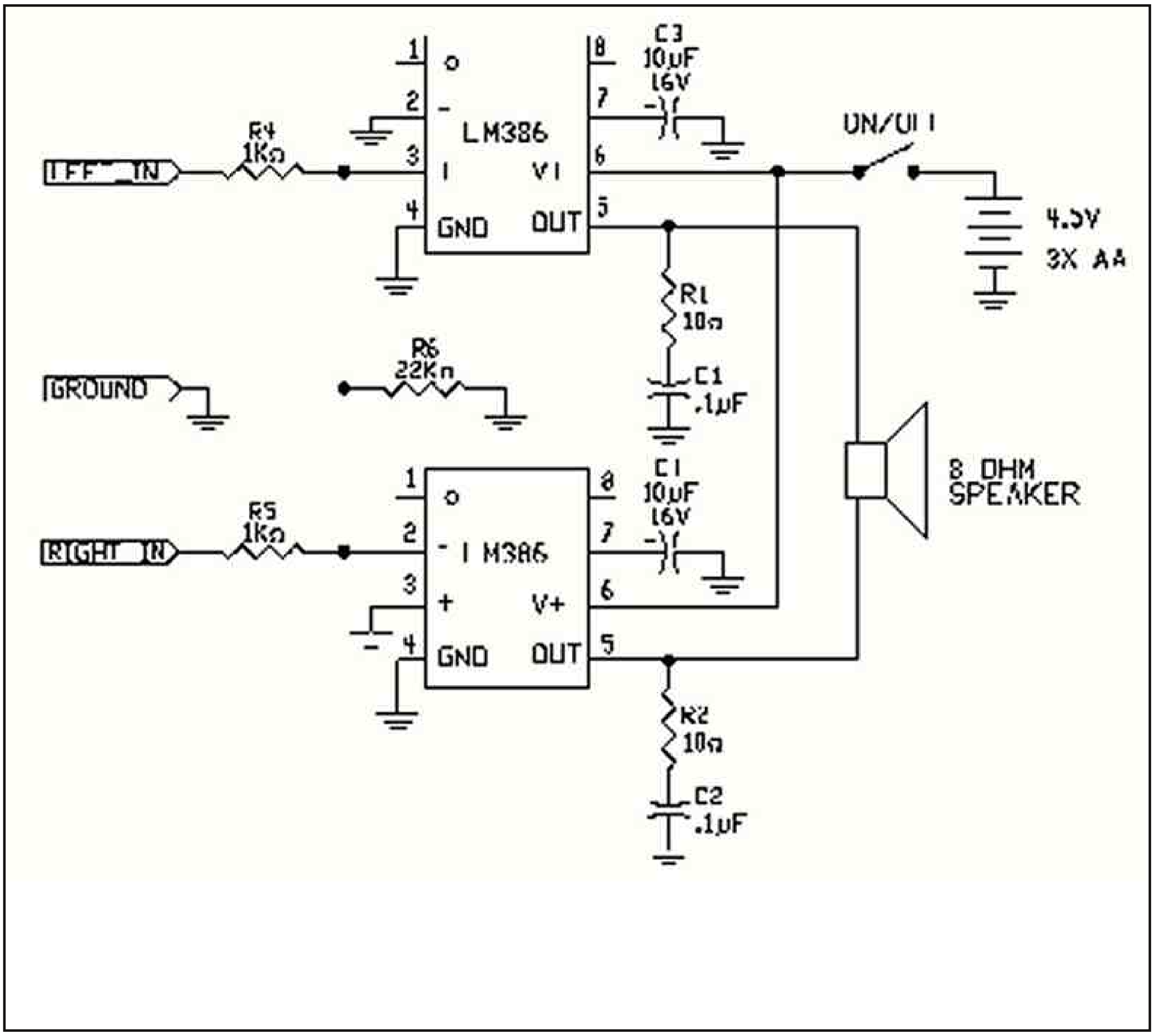
in use

As noted above, the best sound is obtained when the speaker is placed over the open top of a 18 oz. empty peanut butter jar and the lid of the tin is opened slightly. The peanut butter jar enhances the bass and the open lid of the tin enhances the treble, which comes out of the top of the speaker. As a bonus, the tin will just fit inside the peanut butter jar for transportation, so you don't need to carry an empty jar! By the way, this same idea can be used with any device with a small speaker. A nalgine bottle will work too. The improvement in sound quality and volume is remarkable.

A 2” diameter “flat” mylar speaker is mounted inside the tin. One lage hole and a number of smaller 1/4” holes are drilled over the speaker to let the sound out. The speaker can not be mounted directly to the bottom of the tin, it must be spaced a little off the bottom so the cone does not touch. I used a piece of 1/4” thick foam core construction board to make a spacer for the speaker. The speaker is simply hot glued to the construction board. A piece of black felt cloth is then glued to the spacer to protect the speaker cone and make it look better. This speaker assembly is then hot glued into the bottom of the tin, over the holes drilled for the speaker. There is just enough room left to place a three cell “AAA” battery holder in the other end of the tin.

The amplifier to drive the speaker is made from two LM386 low voltage amplifier chips. These are configured as a “bridge” amplifier, where the speaker is placed between the outputs of the two amplifiers. This doubles the amount of power which can be delivered over using just one amplifier for the same battery voltage. The left and right channels from the MP3 player are “summed” by three resistors to the inputs of the amplifiers, which converts the stereo signals from the player into a monaural signal because only one speaker is used. A headphone cable clipped from a cheap pair of headphones is used to connect between the amplifier and the player.

I built the amplifier circuits using tiny SMT (surface mount technology) parts because there wasn't much room left in the tin after adding the speaker and batteries. An experienced circuit builder could likely use larger “through hole” parts and make the profile low enough to fit the amplifier over the battery holder. If you are knowledgeable about electronics and making that kind of stuff, the following schematic diagram should be all you need to duplicate this.



Foam board mounting

A 144MHz Pocket Antenna
by F3WM

Foreword

The hand held transceivers are very usefull for portable operation, for the vacations or when backpacking. They are all afflicted by a common shortcoming : their sausage type antenna is very inefficient. A simple dipole will make better.

This led me to search for a simple antenna, easy to build and wich can be taken in a suit case, a backpack or even in a pocket, but performing better. I finally decided on a supple dipole antenna made entirely with coaxial cable. It may be rolled, folded, squeezed and packed very tightly. Used suspended, so in vertical polarization, it is omnidirectional and allows traffic via relays that are otherwise inaccessible.

Fig 1 (***figures are at the end of the text***) shows a dipole fed in his center by a coaxial line. This layout is simple and efficient although the adaptation is not perfect, 50 ohms at the output of a transceiver versus 73 ohms at the center a of a dipole. If the feeder is short, the losses may be neglected.

One can think of designing a dipole as on Fig 2. The part a - b of the external surface of the braid of the coaxial line being one leg of the dipole. The fact that the braid is not limited to b, and so can't defines a lambda / 4 leg as we wish, is a problem by itself. So this layout is not an antenna and the tests conducted with an antenna analyzer prove it conclusively.

A solution would consist in inserting in the external surface of the braid an LC parallel circuit or trap (Fig 3) tuned for the operating frequency, therefore the internal surface keeping to assume the continuity for the HF currents at the frequency involved. Not a simple affair.

Yet it exists a means to do it with an astonishing simplicity. It is enough to coil a given lenght of the coaxial line to constitute a localized inductance, the spread capacitance between the turns will contribute to get the tuning. The axial conductor and the internal surface of the braid will continue to insure their function as a transmission line. The curvature radius being large versus the space between internal and external conductors, the changes in characteristic impedance may be neglected.

Implementation

* Cut a lenght of 2.50 m in a stock of RG58/AU coaxial cable.

* From one end, make a mark at 470 mm,(a1 sur Fig 4), (a dispenser of office white correcting fluid is very convenient for this).

* Make another mark at 940 mm (b1 sur Fig 4).

* Remove the external insulating layer and the braid from all the B length. Keep in place the internal insulating layer.

* Take a PVC pipe ø 32 mm external, a model used in plumbing works, and cut in a sufficient length to make the H device, Fig 5. The winding is made of 4.6 turns, that dictates the location of the holes ø 5,5 spaced of 20 mm on the generating line and 1656° on the circumference, let 36° beyond the opposing generating line. Chamfer the edges of the holes at the location where the cable will be bended. This operation is a very important one, it allows you to easily slide the cable into the holes and tighten the turns.

* Introduce the naked end the cable into the lower hole h2, passing by the inner side of the pipe, pull a sufficient lenght, then roll the 4.6 turns keeping many slack, lastly slip the naked end into the upper hole h1 by the outer side of the pipe.

* Set the b1 mark at the upper hole h1 level. Then slip gently the cable in the lower hole h2, tightening progressively the turns. So designed the coil is very robust and no other fastening or clamping is necessary.
* Install a BNC connector at G location.
* Install a lenght of 50 mm of hot-shrinking sleeve at C location.

Tuning

Hang up the antenna, the naked end up, at about 2 meters above ground. Search for a minimum VSWR and cut this naked end by bits of 5 mm as far as to get this minimum in the middle of the band. Remind you that the VSWR will never be less than about 1.3 following the imperfect impedance match I highlighted here above in "Fundamentals". That goes without saying that a little antenna analyzer, e.g. an MFJ-259 or other, is a valuable tool for these tests.

The tuning phase being finished, a ring terminal may be soldered or crimped at A location in order to hang up easily the antenna by the means of an insulating string. Do not forget to shorten first the end A by a lenght equal to the lenght of the ring terminal diminished of the lenght of the soldering or crimping zone.

The results

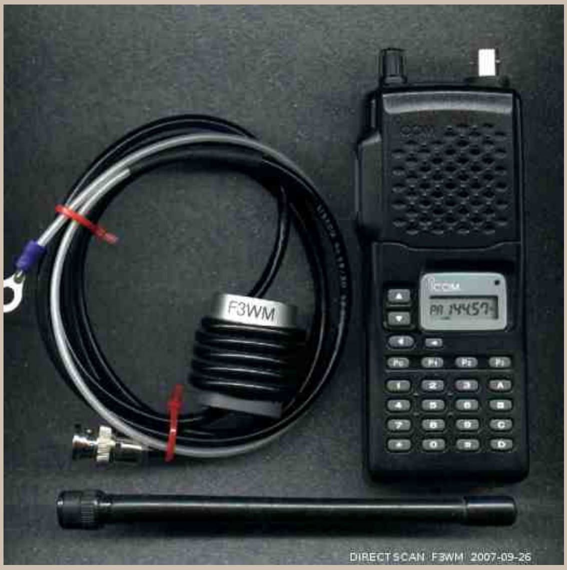
An VSWR of 1.3 has been obtained at 145.000 MHz and less than 1.5 from 143.500 to 147.000 . As one can see the bandwidth is great enough. Listening at stations or relays the gain versus the original "sausage" antenna amount to several S units on the bargraph of the transceiver. Though this do not give a true measure, the gain is obvious. The weight of this antenna is only 105 grammes.

Remarks

I designed also another antenna from a lenght of 3.90 m of cable. The results were the following : VSWR minimum at 143.800 and less than 1.5 from 141.800 to 146.500 . Its weight is 159 grammes.

A theoretical quarter wawelenght at 145.000 MHz would be 517 mm. As one can see, the lenghts of the parts B and D are lesser, so the velocity factor is less than 1. This is related to the presence of the internal insulating layer of the coaxial line onto B and the external insulating layer onto D and also to the fact that the tests are not conducted in true free space. To work out antennas for other bands, take account that the initial lenghts for parts B and D, in mm, are about equal to 68000/F, with F expressed in MHz.

Rolf Brevig, LA1IC made some work on this type of antenna which largely inspired my own design. He also described a design of this antenna for the 50 MHz band beginning with an initial lenght of 728 cm. He used 11.8 turns onto a coil form ø 50 mm.



Thanks to Daniel, F6GUL, his help was appreciated at the test time. At ma location, 4.5 watts, at F6GUL, 20 watts in a 5/8 lambda antenna. Distance 60 Km with hills between us, operating frequency 145.500 MHz. With the pocket antenna my report was 52, with the sausage antenna hardly if some words where heard, the S meter frozen to zero. Not miraculous, but the contact was made possible.

73's from F3WM

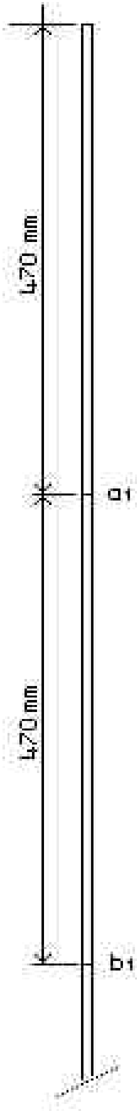


Fig 4

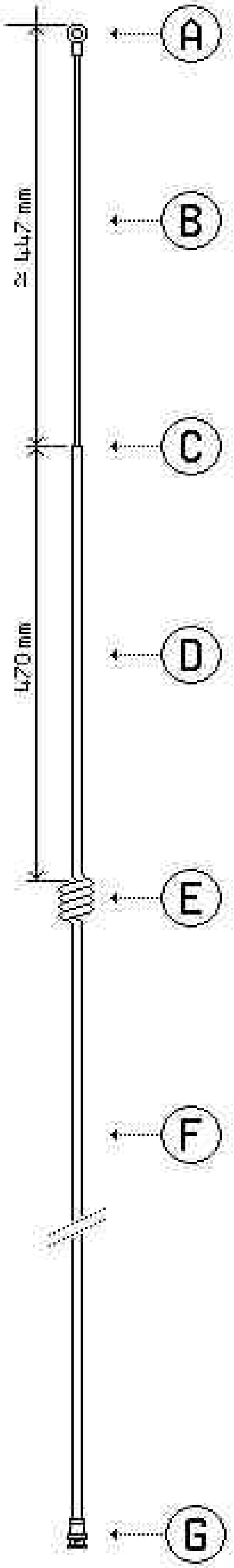


Fig 6

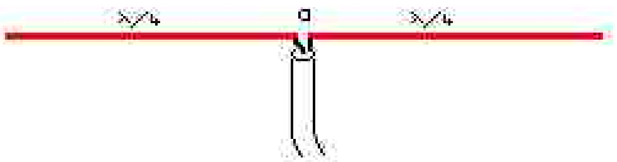


Fig 1

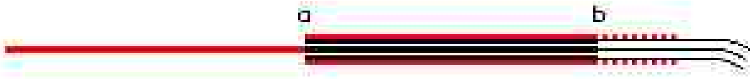


Fig 2

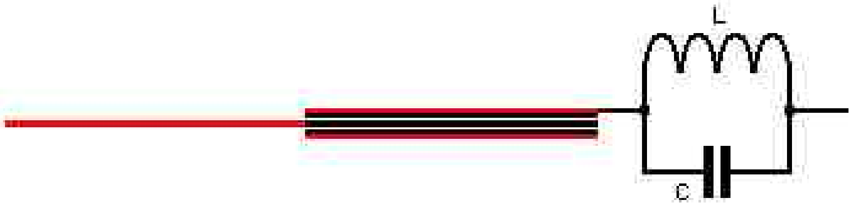


Fig 3

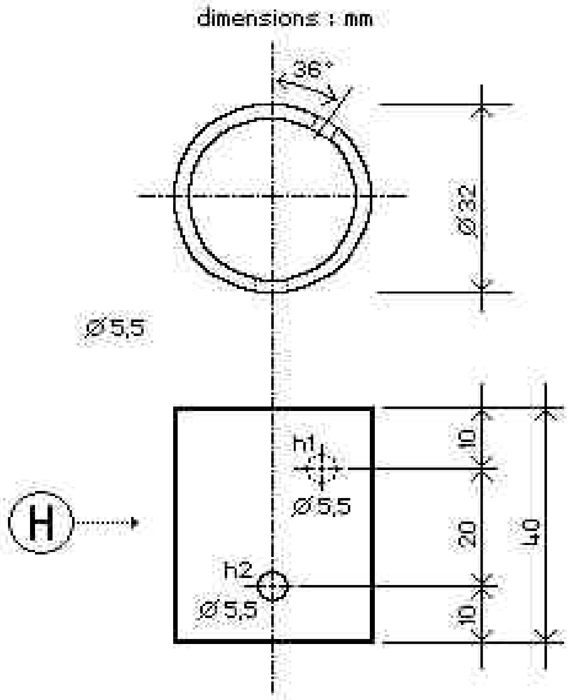


Fig 5

144 MHz POCKET ANTENNA by F3WM

GRAPHICS BY GIMP

pocket.gif 2000-08-26

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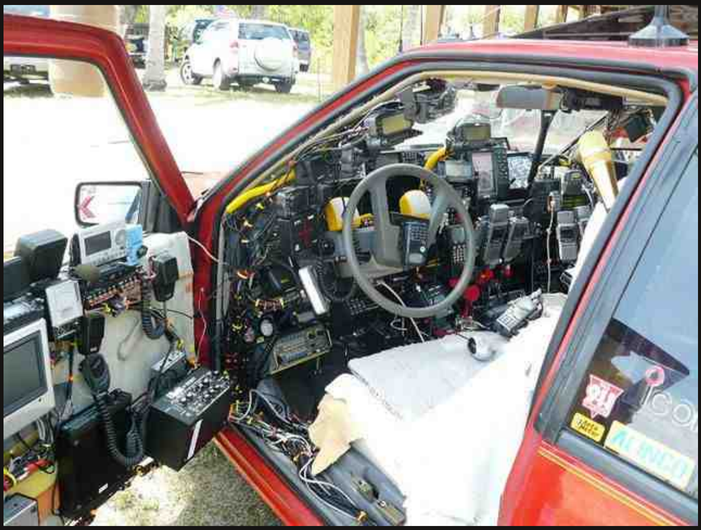

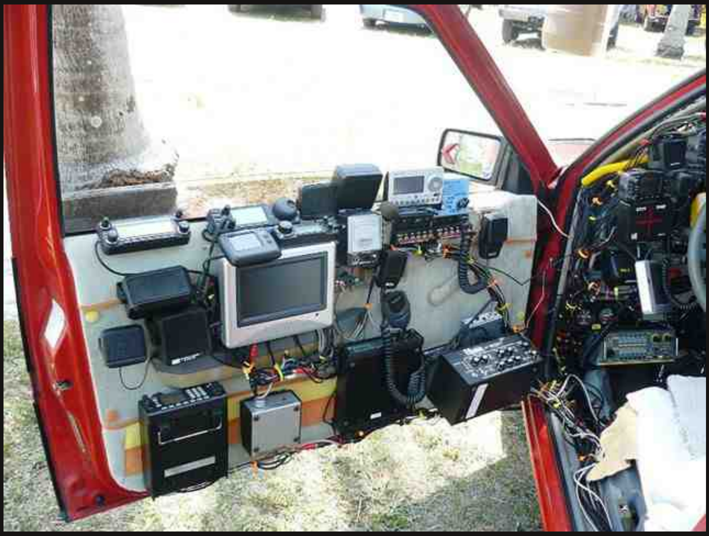

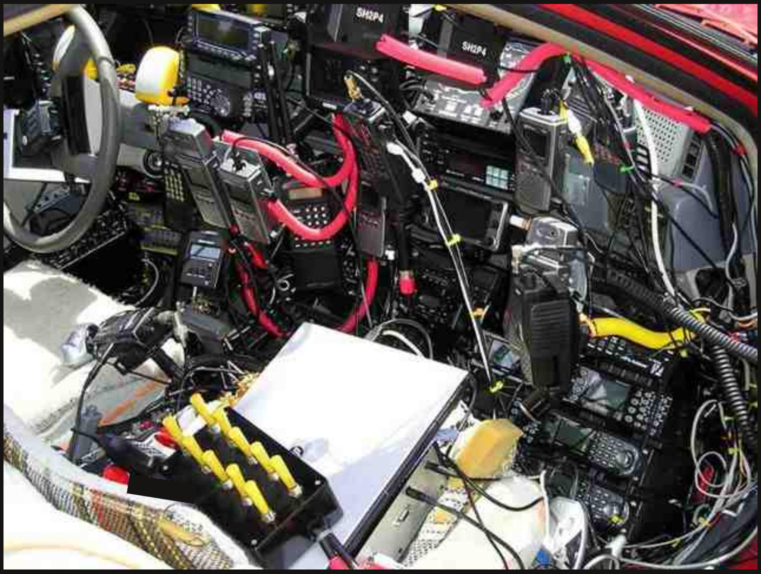

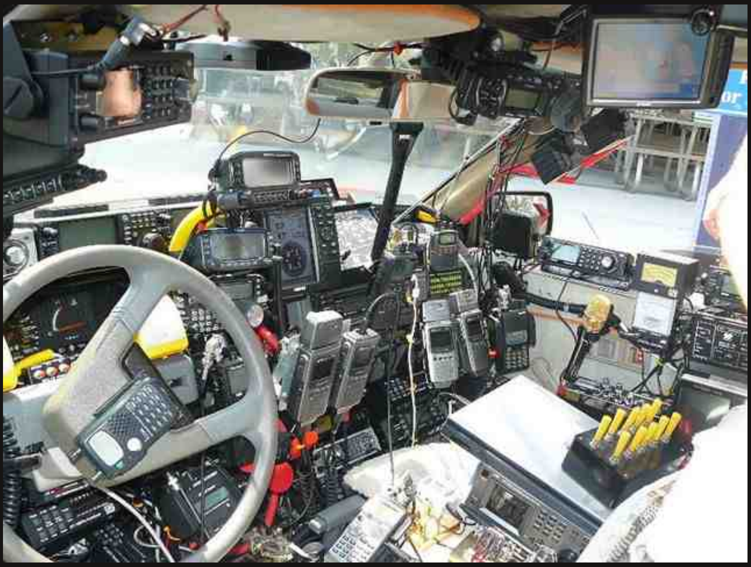

HAM-MAG N.12 - FEBRUARY 2010

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E-MAGAZINE HAM-MAG

The first free & monthly E-magazine for amateur-radio, SWL...

4U1VIC in WAE SSB contest 2008

FT-290 SECOND LIFE

ZA0 DX'PEDITION

NUMBER 3
FREE ISSUE
MARCH 2009
http://www.ham-mag.com

Number three !

Dear YL, dear OM,

Almost 8,000 readers of HAM-MAG.
More than 4,000 readers for this english version and 3,900 readers for the french one.
This is (may be) the begining of a great adventure. This magazine is living thanks to you, and only you (as Elvis used to sing).
For my job (yes, I have another job), I crossed the France a week ago and was surprised by one thing : antennas have disappeared from the roofs. Just 15 years ago I liked to look the Ham antennas, and nowadays there are more money in the pocket of a trader than antennas on the roofs.
We have also seen recently the bankrupt of the two ham magazines in France, the crisis is everywhere.
A web-magazine as Ham-mag (and others) is a good way to promote our activity and to save money and trees. So, don't hesitate to send me any informations about radio, homebrew, DX...

To communicate and to share informations is the way of the hamming folks

So... dear YL, dear OM, Carpe Diem for this number 3 !

Best regards and 73's
Vincent FAUCHEUX - F5SLD
HAM-MAG

HAM MAG N.3
MARCH 2009

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THE RACE WITH OBSTACLES

By Francisc Grünberg, YO4PX

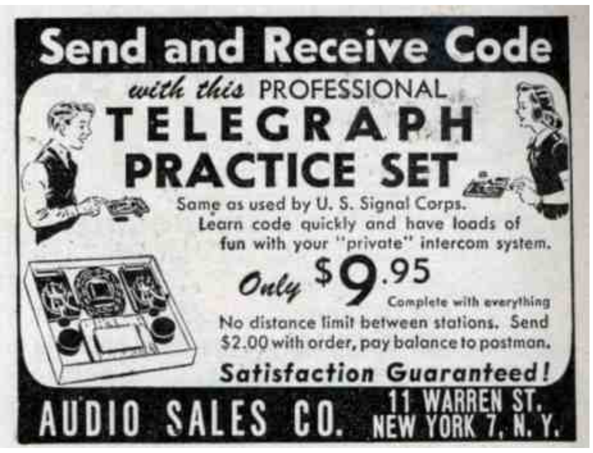
I started to read with great excitement the article written by YO2**, dedicated to the 40 years anniversary of the radio club of Timisoara, my beloved place of birth, abandoned by me 37 years ago, but on whose streets I still walk often in my dreams. There I brought up and went to school, there I traveled in frosty winter mornings, when the mercury of the thermometer descended under -20 degrees C, sometimes on the foot board of the crowded streetcar 6, on its circular way, through the Maria plaza and on the bridge over the river Bega, trying to arrive in time to the Musical High School situated in the downtown. But I haven't imagined in my nastiest dreams that reading this article I will come across again with «comrade» Alexandru, albeit only under the spiritual shape of a name printed on paper. Like in a nightmare, comrade Alexandru reappeared in my life, though I was hoping once that I'll may erase him for good from my memory.

The author of the article is arrogating him good organizers' abilities - who knows, maybe he was really a good organizer - but for me he was the one who for two lengthy years prevented the fulfilment of a dream.

I was 16 when a class mate, a violoncelist inoculated me with the bug of amateur radio by giving me a few issues of the The Radio Amateur magazine and revealing me the «secret» that on the short wave bands, amidst the broadcasting stations one can hear radio amateurs ragchewing freely, something fast unconceivable to the spectators of the propaganda films of those years, in which the only ones operating radio stations were either brave Soviet soldiers, or spies, disgusting traitors in the service of the Western intelligence agencies, who ended always by being caught, thanks to the patriotism of a pionier or a Comsomolist (member of the Soviet Young Communists' organization), who discovered their activity and informed the authorities.

I found quickly in our rudimentary radio set the 40 and 20 meters bands and, amazed, I started to listen the QSO's of the local amateurs and of the foreign stations in AM, among them many Italian stations, with their extremely strong signals. Then, with the help of an old scout guide I learned by myself to copy the CW contacts too; obviously the signals didn't have a musical sound, they were only «buzzing», and I remember the thrill felt when I heard in a very early morning the trembling signal of a W6 station sending QTH CA and then a Chilean station from Antofagasta. I even manufactured log sheets, keeping record of my receptions and I started to dream that one day I will send QSL cards bearing my SWL call-sign!

In the winter of 1959 I entered my name for the telegraphy courses organized by the A.V.S.A.P., the «Voluntary Association for the Defence of the Homeland», held in the main room of the radio club and I graduated them in the summer of 1960. I became also the happy owner of a fabulous booklet with gray covers, the Radio Amateur Traffic, from which I learned a lot of new things. It comprised the list of the DXCC countries, their prefixes, their CQ zones. After a few months I knew most of them by heart, many of the prefixes appeared already in my «logs», so that when a member of the examinations commission for the amateur radio certificates asked me about some European prefixes I had no trouble at all to give him the right answers. In November 1960 I became the proud bearer of the Amateur Radio Short Wave Listener Certificate No.184 and I filed together with my telegraphy courses colleagues the application for the SWL License. Everything seemed to be all right, nothing foreboded the enter of comrade Alexandru in the scene and in my life, to overshadow the enjoyments of my young years.



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I haven't seen him very often before, in the afternoons when the telegraphy courses were held I could admire only the skill of a few amateurs constructing in the room on the right side an enormous station, while in the room of the left side the legendary Mir, YO2CD was busy with his exotic CW QSOs. It was said that the new radio club chief is coming from the Army and that he has no idea about amateur radio whatsoever. Well, this haven't prevented him to reject my license application, while the other applicants - among them Hungarians and Germans besides Romanians, but none of them Jewish - received their licenses and went off hastily to the workshop to order the stamps with their brand new SWL call signs. Alexandru was supported in his categorical verbal refusal - like in all other his actions - by a well-known ham from Timişoara, today an old-timer, who was shaking his head and shrugging enigmatically his shoulders alike the «boss», as an answer to my desperate questions.

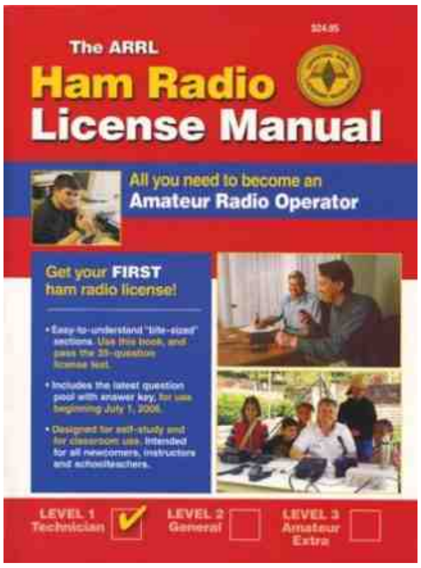
This was the beginning of a tormenting time, marked by permanently renewed and afterwards unfulfilled expectations. Alexandru hoodwinked me, appointing time and again new dates when I had to present myself to the club, and I remember the winding staircase mounted by me with pang and hope and descended soon full of sorrow, having in mind a new date when - who knows, maybe, possibly, nevertheless - a misterious and unseen guardian of the Law, arised out of the writings of Kafka, will finally take pity and will agree with the supplication of the poor unlicensed short wave listener, who desired so much to be within the Law……

I have kept record of these visits to the radio club. They were as much as 35. At the thirty-fifth visit Alexandru, probably bored of the monotony of this repeated scenario, opened with soldierly courage a new battlefront: one has to be member of the UTC (the Union of the Communist Youth) to become a licensed short wave listener. The homeland has confidence only in UTC members. I objected: among my course colleagues who obtained the license I know a few who are not UTC members, some of them didn't even reached the necessary age to become UTC members. Alexandru sank for a while into his thoughts, but at last he found the saviour solution. A letter of reference from the school, that's it, I need to obtain a letter of reference from the school, but for this we'll go together, comrade Alexandru and me, to request the letter of reference from the headmaster. As a disciplined military man, he was waiting for me at the entrance of the high school on the appointed day and time, wearing his greenish uniform; in front of the headmaster's office he told me to stand by and he stepped in alone.

The headmaster was very fond of me, I was always included in his «troupe» of student-artists, able to perform a complete musical programme, sent by him to take part in all the artistic festivals held in the county, and with my xylophone, accompanied by a colleague at accordion, I scored fulminant successes.

I'll never find out what exactly they discussed inside the cabinet, the fact is that after a time Alexandru came out and showed in direction of the door: the headmaster is waiting for me. This entire suspicious theatre seemed to be of very ill omen. With burning face and stammering of emotion I presented to the headmaster my grievance to be issued with a letter of reference. As long I live I'll never forget the profound embarrassment of the poor man, constrained to deny my request, without being able to offer me any explanation at all. I left astounded the cabinet. Alexandru disappeared.

And with this all my hopes collapsed. I decided to give up irrevocably to this hobby, which for me seemed to be forbidden. But before that I've done however something: for the first time in my life I exercised my right of petition, granted by the Constitution, in my capacity of young citizen of the Romanian People's Republic. I wrote a long letter to YO3**. I heard him Sundays transmitting on 40 meters band the official QTC's of the Romanian Amateur Radio Federation, and I thought that somebody must nevertheless learn about the mockery I've been inflicted, it must remain somewhere a trace of it. I counted him day by day the 35+1 summons to the club and I asked for his help, simply unable to understand why I have been refused to get something obtained by others without any difficulty. I sent one copy of the letter to the Central Radio Club, another one to his personal address, I found both addresses in the telephone directory. A few months I still watched the arrival of the postman. In vain. The Romanian citizens' right of petition was laid down all right by the Constitution, but not so the obligation of the institutions or the officials to give them an answer. Probably that's why the addressee did not condescend to reply to my S.O.S……



After a year or so I came across on the street with a course colleague. He received already his transmitting license, he told me that he worked ZS4 on 40 meters. And he gave me another information: comrade Alexandru was called back to active service, the new chief of the radio club is Costi Dumitrescu, YO2BI. Go to the club, he's a good guy, maybe he'll give you a hand, added the colleague before we gone apart.

I ascended with trembling feet the well-known wooden stairs. And indeed: in the room tapestried in blue by comrade Alexandru, near the station sate a nice looking young man. I narrated him in short what I have been through and I showed him my SWL certificate. He smiled sadly, sympathetically, then he rose to his feet, extracted from a locker a form, he filled it in with my name and with the «receptionable bands» in my poor radio set: 7 and 14 MHz. Then he consulted a register and he filled in also the «call sign» column: YO2-1117. Go to the Central Post Office and ask them to stamp it, he said. Then he turned to another ham present in the room: Unbelievable, isn't it?

After a month I was there again, this time with about 300 QSL cards, my very first receptions as a licensed SWL. I brought with me the log copy as well - probably the younger colleagues doesn't know that in those years one had to present carbon copies, even for receptions, in order to be verified by the «authorities». Costi run over the pages and he said: Well-well, how nice would be if the transmitters could keep their logs as orderly as this one!

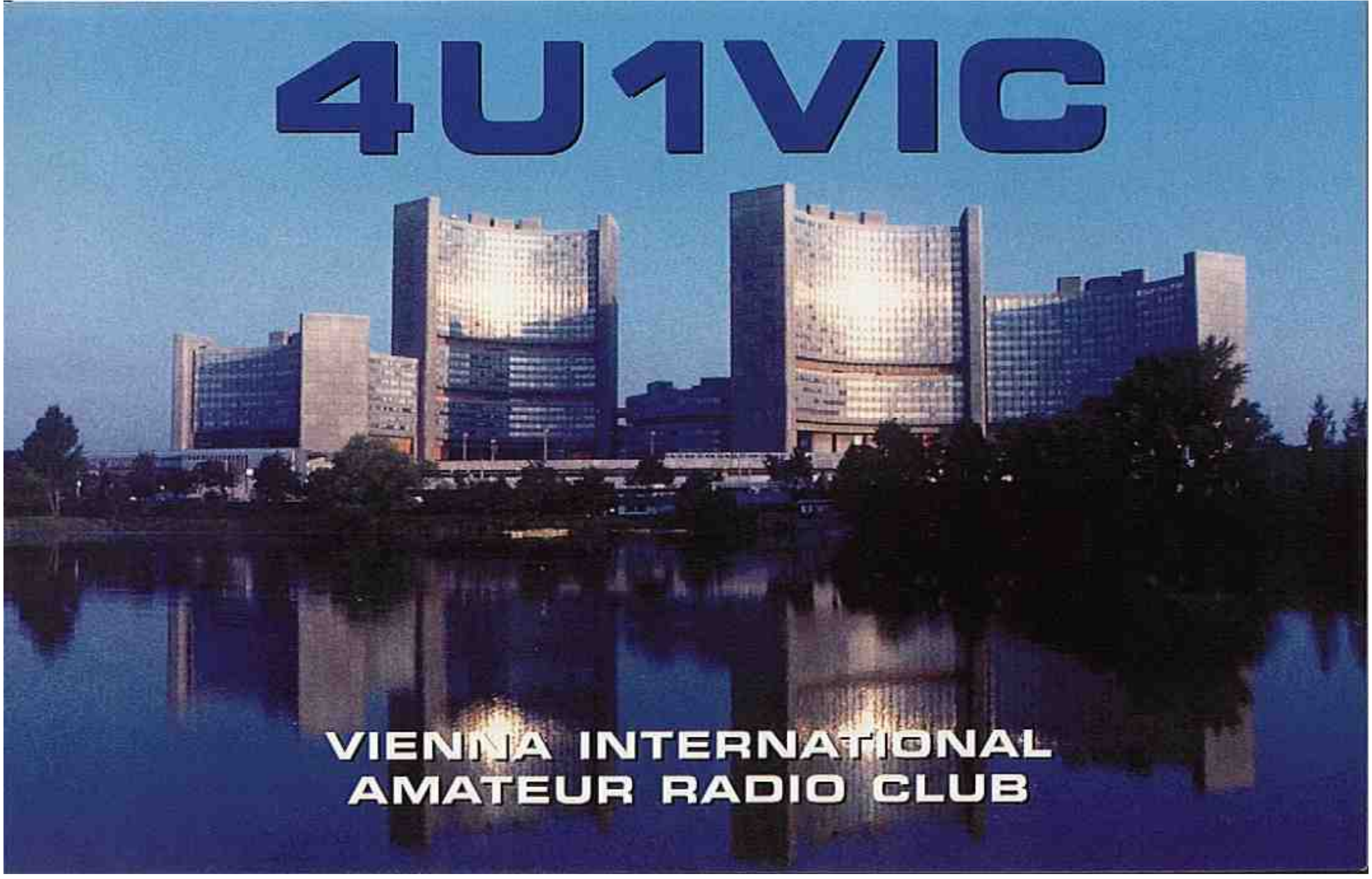
With this a chapter came to an end for me, but not so the ordeal of my race with obstacles. I reached its finish only in 1980, after 17 years of form-fillings, applications, petitions, remonstrances, memorials … and receptions. I obtained my transmitting license at the age when other hams accumulated some 20 years of activity.

This is the way I've acquainted comrade Alexandru. I hope with my whole heart that on the way of their evolution our younger colleagues won't come upon such characters, who were able to do much harm to the Romanian amateurs, in those years plagued by arbitrariness and totalitarianism.

This text was published in the Romanian magazine Radiocommunications and Amateur Radio and on the independent website www.radioamator.ro

73's ! YO4PX

4U1VIC in WAE-SSB contest 2008
BY OE3SGU - Hannes

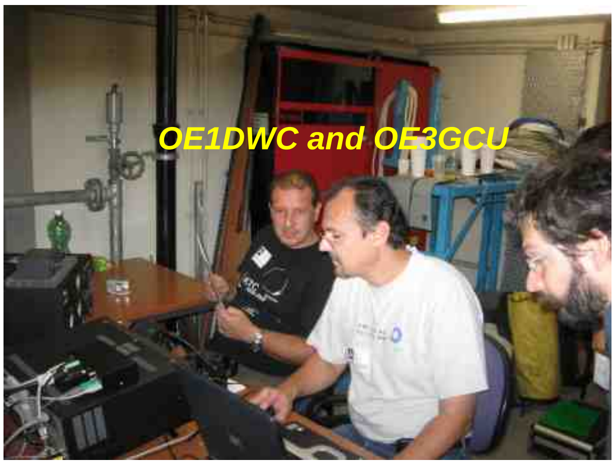


Every 2nd weekend in September the SSB part of the „Worked all Europe“ contest takes place (www.waedc.de). Normally stations located in Europe may only work stations located on another continent, but this year because of the 60th anniversary of the WAE diploma an exception was made: Europeans could also work other Europeans. Of course, no contest points were granted for these contacts, but the t fun taking part in the competition was greatly improved.

This fact was enough reason for some hardcore shortwave enthusiasts (Günther, OE3GCU, Werner, OE1DWC and Hannes, OE3SGU) to think about participating from the UN Headquarters in Vienna, the Vienna International Centre (VIC). 4U1VIC counts as a separate region and multiplier in this contest and thus we expected some nice pile-ups. It also has been a while, since a multi-operator group has operated from the VIC. We soon thought about how to best realise this project.

After we established contact with some Hams from the VIC, ten days before the event all of us met and discussed the details, and we had a look at some possible contest locations. We wanted to plan everything as thouroughly as possible in the short time remaining – making the best out of the given facts and options.

Soon we realised, that participating during the whole 48 hours of the contest would not be possible. Security standards in the VIC require, that a UN staff member be with visitors during the period of operation. Furthermore, access to the VIC during the weekends is only possible in a very restricted manner and requires an early registration. Thankfully, Rom, OE1RKS, Alex, OE1AWB, Bernhard, OE3BLB and Rainer, DL1DTN – all employees at the VIC – offered to stay with us during our contest activity. Needeless to say that this is not a matter of course as normally all rather like to spend their weekends with their families instead of at their QRL's location.



A short visit and inspection of the present shack of 4U1VIC in the G-building near the "Austria Center" conference-building soon showed us that there is relatively little space for wire antennas. Even installing a beam would not be an easy task. Also, the G-tower "only" has 48 meters of height and transmission into some direction is severely blocked by some of the higher UN-bulidings around. Among other offices, the G-building accomodates UNIDO and IAEA. On the other side, building "D", seat of UNIDO and CTBTO, is a massive 102 meters tall and offers a relatively free sight into all directions. According to Alex, OE1AWB, a temporary weekend-operation from the D-tower would be possible. He could offer us a little room on top of the roof that is normally used as a service-room for elevators. The room offered just enough space for the group and sheltered us from any outside noise, wind and rain.

Friday before the contest the antennas had to be installed. We used a Cushcraft A3S tribander (lent by Georg, OE1GPC) including a SPID-rotator (from Manfred, OE1MB) for the higher bands. For 40 and 80 meters we had monoband dipoles which were adjusted by Günther, OE3GCU, for a perfect low SWR. Installing the antennas was more difficult as we expected and took until sunset.
A total lenght of 130 meters of coaxial cable was needed. Günther and Werner really had planned every little detail. There was literally nothing they had not thought about. Every adapter and tape, every screw, an SWR-analyzer, ropes – all had been brought by them. For enabling us to install the A3S at the ladder on top of the roof some special brackets had to be built.

The exposed – and sometimes very windy – location on top of the D-building offered a phantastic view all over Vienna and to parts of OK and OM. This location was a dream for someone whose options in installing outside antennas are very restricted or non-existent.

The radio in use was Günthers's Icom IC-775DSP, including a Heil-headset, a foot-switch and a microHam micro-keyer. Werner brought along his OM-Power 2500 linear amplifier. With a modest drive of 20 watts this linear delivers a massive Kilowatt output – just what we needed for the rough contest-use. All the logging was done by „Win-Test".

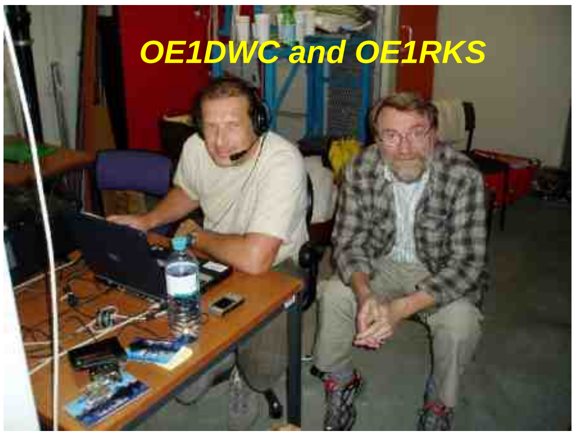
We were on the air for a total time of approximately 20 hours. On Saturday we worked from 0755 to 2245 and on Sunday from 0710 to 1655 (local time). Late in the afternoon on Sunday we started disassembling the antennas and evacuating the equipment. Only a very modest operation during the nighttime was planned. We worked in shifts of 2 hours which proved of value as it gave everyone some time for other obligations.

Unfortunately, band conditions during this weekend were absolutely disappointing.

In the morning we only had smaller pile-ups, mainly with European stations on 40 meters. During these times of low activity we mainly "searched and pounced" the bands for new multipliers. Probably only a few European stations knew that this year they could also work other Europeans. Most of the callers came from outside our continent.

A3S antenna on D-building

In the afternoon, 20 and 15 meters often provided wide openings and we finally could change into "running". Especially on 20 meters we had nice pile-ups to North-America and to Japan. Many W6/7's, VE's and JA's/HL's had big signals over S9 and queued to work us. Interesting entries into our log on 20 meters were stations from 5R, 9K, 9M2/6, BY, EY, HI, HK, TI, TR, TU, UK, VU, YB, YI.
15 meters partly showed nice signals from Near, Middle and the Far East, but most openings only were of a short duration. Among others, we were able to work stations from A7, HS, HZ, JA, UA0, UN, YB. 40 meters opened to South America; the prefixes HI, HK, PY, YV could be logged. But we also managed to work 4L, 5B, EA8, EA9, JA, TA, UA0, VK und some W's on this band.


OE1DWC and OE1RKS

All QSO's of this activity – as it is a tradition with 4U1VIC – will be automatically confirmed via the bureau. Of course all direct cards will be answered, too. We will also upload our log into the ARRL's Logbook of the World (NOTE: ONLY contacts for this activity! All other, earlier QSO's of 4U1VIC are not available in electronic form!)

A special thanks to all of the UN-staff who supported and accompanied us patiently during this contest. Thanks to Rom, OE1RKS, Alex, OE1AWB, Bernhard, OE3BLB and Rainer, DL1DTN – without you it would have been impossible to realise this project!
Our thanks goes also to the very patient security staff, who assisted us in checking in and –out the pile of boxes and antennas and tolerated our presence during the weekend. Last but not least: thanks to our partners who gave us a free weekend for our hobby and to everyone who called us.

We are looking forward to the next QSO in the next contest or during the next activity of 4U1VIC!

QSO-statistics for 4U1VIC 13/14.9.2008:

A total of 1027 QSO's with 80 DXCC-entities were made, on

80 m:	3	0,3%
40 m:	238	23,2%
20 m:	763	74,3%
15 m:	23	2,2%
10 m:	0	

by continents:

Africa:	16	1,6%
Asia:	135	13,1%
Europe:	399	38,8%
North America:	453	44,1%
Oceania:	5	0,5%
South America:	19	1,8%

claimed score: 173756

© Hannes Grünsteidl, OE3SGU (oe3sgu@gmx.net)

OE3SGU on top of the building

View over Vienna from the shack

A NEW LIFE FOR THE FT-290R TRANSCEIVER !
By F5RCT

The FT-290R is an old amateur radio workhorse which was a very popular transceiver during the 80's. It is a 2-metre multimode portable which can run with or without an external 12 V power supply unit. Still quite favoured as an exciter for transverters or linear amplifiers, it is built like the proverbial brick outhouse. Large numbers were sold and they are now commonly available for around 150€. They seem to be reliable in general and most components are discreet and can be replaced. The following article proposes a list of modifications "à la carte" to improve their performance.

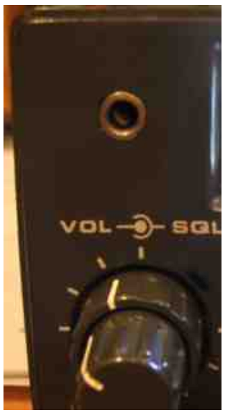
The Yaesu FT-290R is a multi-purpose, multi-mode FM / CW / USB / LSB portable 2-metre transceiver. With 13.8 VDC input, output power is 2.5 watts. Coverage is 144 to 146 MHz. FM steps are 12.5 or 25 kHz for the European version. CW/SSB steps are 100 or 1000 Hz. It has a built-in telescopic antenna. The radio operates from eight alkaline/NiCad C cells (not supplied) or from an 8.5 to 15.2 VDC power supply. It measures 6 x 2.5 x 7.9 inches (150x58x195mm) and weighs 1.3 kg.

For modifications you need the schematic diagram and the alignment procedure described in the user manual [1]. The minimum equipment required to align the transceiver is a power metre and a frequency counter (or better: a spectrum analyzer).

I have tested four devices: on some of them PLL and SSB modulator frequency crystals drifted due to ageing. Aluminium capacitors had aged too and showed an equivalent series resistance of more than 3 Ohms on 10µF capacitors. Some of them can leak, block the AGC line and have an effect of "heating up" when power is turned on.

Internal antenna removal and Pi filter improvement:

The FT-290R has a reputation of low sensitivity when the transceivers from the 90s came on the market. Mutek Ltd offer the SLNA290s [2] preamplifier but the internal antenna system will bring losses anyway.



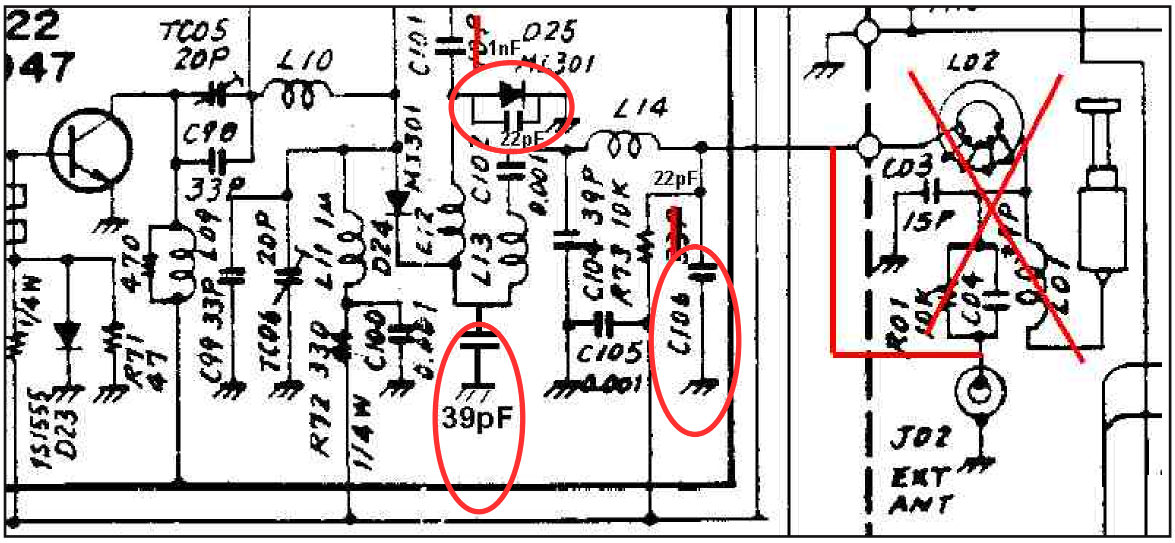
This present modification has two advantages:

- It reduces the loss on the system by 2dB, improves the output power (x1.5) and sensitivity is better.
- For OMs who don't like the antenna socket connection at the back, it is possible to replace the antenna by a BNC socket on the front panel. Removing the inserted ring can be done by drilling it carefully through with a 10.5 mm diameter tool. On one device, I used the hole to place a 3.5mm stereo phone socket. Very useful for common headsets!

The output Pi filter shows losses and needs to be modified.

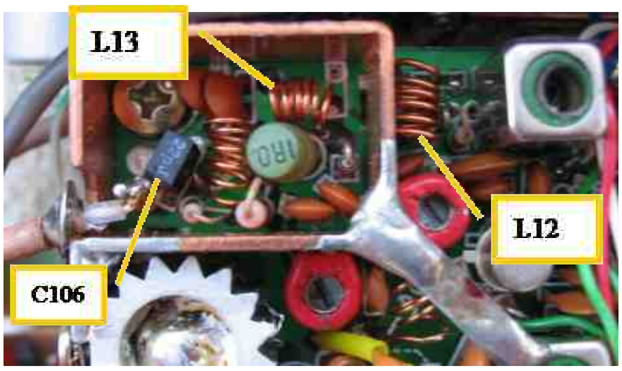
Remove the antenna and the tube along the flange and the components wired to the main board.

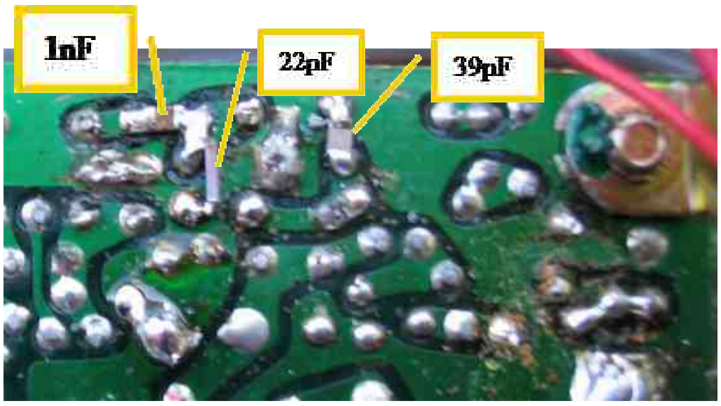
Remove all external components located outside the main PCB : From small tore L02 to L01.



It is possible to replace the capacitors with 1206 or 0805 SMD 50V COG soldered directly on the bottom of the board. : it's easier and quicker than removing solder from holes.

- Now replace C106 (33pF) to 22 pF with a good ceramic capacitor (located in the corner near the screw).
- Replace L12 with 6 turns on 3 mm diameter using 0.5mm enamelled wire.
- Add a 39 pF capacitor between L12 and L13 (a location is foreseen).
- Add a 22 pF capacitor parallel to D25.
- Replace C101 with a 470pF to 1 nF capacitor.
- Reassemble the turns of L13 as shown on picture.





The Tx output stage needs to be tuned. Select the high power switch position. Adjust VR2003 to maximum power, and then adjust TC05 and TC06 to maximum power at 145 MHz in FM mode. The current is approximately 1.1A at 12.5V and maximum power is 4.5 W on my sample.

Then reduce the power to 3.5 W by adjusting VR2003 again. This is necessary to stay linear in SSB mode. Select low power switch position, and then adjust VR2006 to 500 mW.

The insertion loss on Rx is improved from 2.7 dB to 0.7 dB. On Tx the loss is improved too: from 2.5dB to 0.6dB and allows more than 1W in additional power.).

Using the FT-290 as a transverter or a PA:

The FT-290R has two power levels: 2.5W and 500 mW.

The low power mode may only be used for power consumption reduction. In low power mode ALC is not working and modulation compression is not present. The low level depends on a gate voltage of the Tx IF chain, this will imply large tolerance on this level, depending on temperature and frequency.

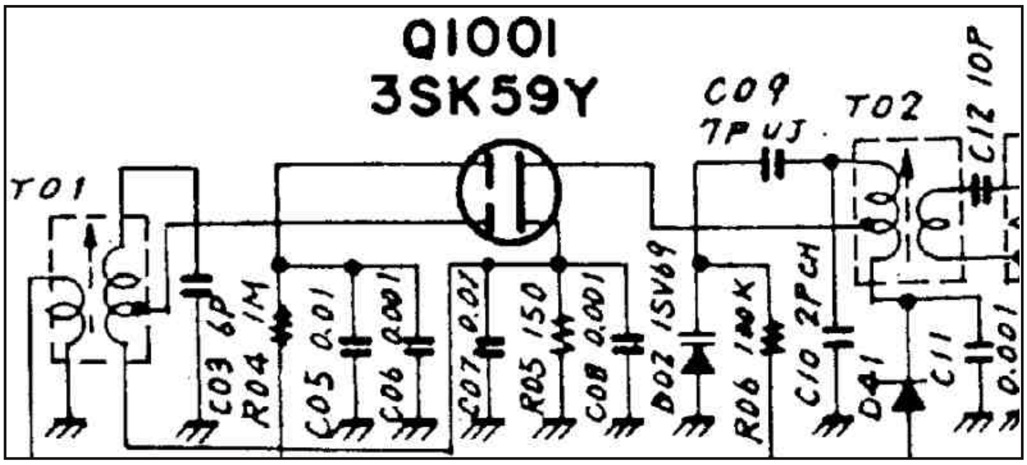
To use the transceiver with a PA or a transverter I recommend using it in 2.5 W mode. It is possible to adjust the level with VR2003 down to 1 W.

Receiver sensitivity improvement :

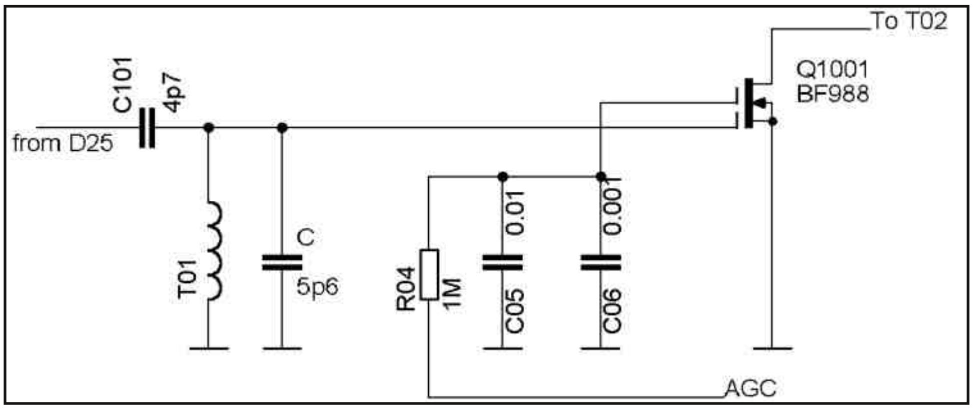
Sensitivity of initial circuit with modifications of Pi input filter and internal antenna system removed. Connection direct to S0239 antenna socket:
-120 dBm measured (0.22 µV) at squelch threshold in FM with CW signal.
-115 dBm measured (0.39 µV) for 20 dB (S+N)/N in SSB with CW signal. (0.5 µV specified on datasheet).

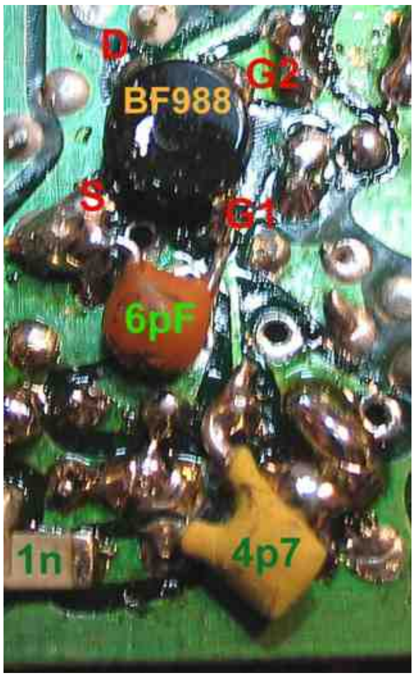
The poor sensitivity comes from different design reasons and from the input transistor:

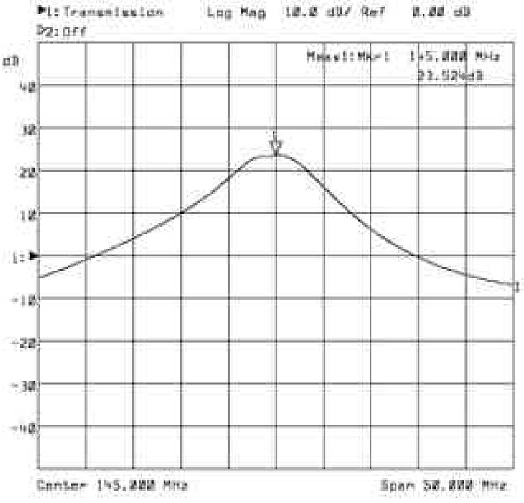
- Antenna switching from antenna socket to receiver input has high loss. The last modification reduces the loss by 2dB.
- The input transformer T01 has loss too. Having a transformer with very thin winding wire introduces loss compared to a direct matching circuit.
- The input transistor Q1001 has a poor noise figure even if the gain is sufficient. A quick modification consists in grounding the source resistor to increase gain (+1 or 2 dB) and drain current: but there is no improvement in sensitivity (signal to noise). This will increase G2 voltage and gain. This transistor is located close to the power jack.



De-soldering of T01 is easy by using a large tip and adding a lot of solder tin to heat all leads together. Remove Q1001, C03, and C07. Clean holes with a de-soldering pump.
Replace Q1001 with a BF988 soldered on back side with reference facing the PCB. It is possible to use a BF690, BF961 or BF964 (or the SMD versions: BF998, BF994, ..)
Remove carefully the shield from T01 and the ferrite cap, cut the wire and clean the coil support. Then T01 is wound with 4.5 turns of 0.25 mm enamelled wire. Start the winding at the top second slot from G1 pin connection to finish at ground connection. Place the 6pf or 5.6pF capacitor from ground S to G1. Add a 4.7 pF capacitor from G1 to input close to C101, or replace C101 with 4.7 pF and make a short jump to G1. Solder non used pins of T01 to ground.







The front end stage T01 and T02 need alignment at 145 MHz using an RF signal generator, based on maximum deviation of Smeter.

Tests:

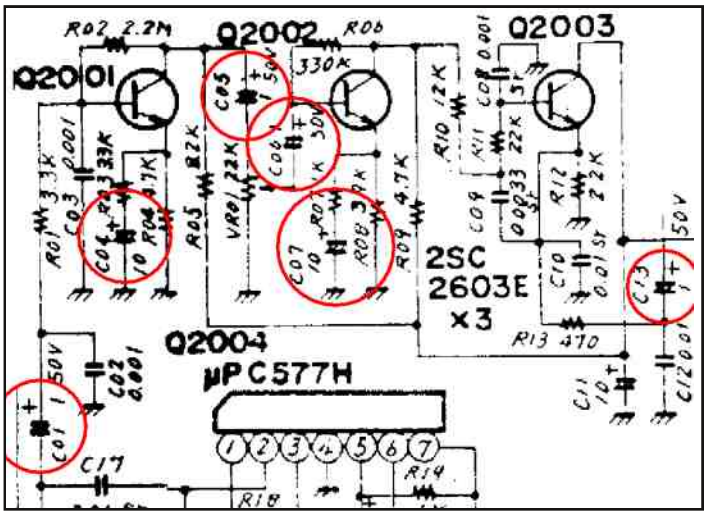
Sweeping the stage from antenna input to output of T02 gives a gain of 23.5 dB. The AGC voltage of 2.1V is sufficient to get the maximum gain.
-123 dBm measured (0.16 µV) at squelch threshold in FM with CW signal.
-118.6 dBm measured (0.263 µV) for 20 dB (S+N)/N in SSB with CW signal. With -128.6 dBm measured (0.083 µV) for 10 dB (S+N)/N it is possible to decode a good CW signal.

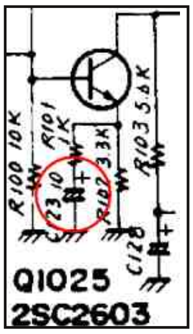
The sensitivity measurement shows a 2.6 dB improvement, with the modification of the Pi filter it is about 5 dB better!
Calculating the approximate noise figure from output S/N to input S/N:
NF = (-128.6 dBm) – (-174 dBm/Hz + 10log (2400 Hz) + 10 dB [(S+N)/N])= 1.6 dB (Not bad!)

Modulation improvement :

If you have a low pitched voice and reduce plops effects it is necessary to cut off audio low frequencies by changing some capacitors. This modification improves the quality of modulation by cutting low frequencies under 300 Hz. A slight emphasis of 3dB is introduced from 300 to 1000 Hz to make the voice clearer.

The original SSB microphone preamplifier has a low frequency cut-off near 10 Hz. This will not improve the rejection of residual side band under 300 Hz and produces a scratchy modulation.
Located on border near VR2001, change the C01, C04, C05, C06, C13 capacitors for 100nF X7R ceramic capacitors. See capacitors marked in red circles on picture below. The C07 capacitor is replaced by a 1µF aluminium.

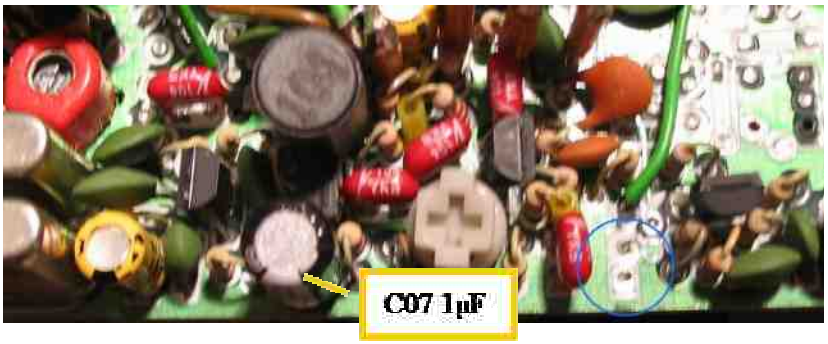




Audio quality of reception :

On earlier versions of FT-290R the audio gain is too high and the volume control range is too straight.

The change had been made by Yeasu during production. Check if capacitor C123 and resistor R101 on the border are mounted, if it is the case remove them. See location marked with a blue circle on picture below.



Battery replacement :

Check the voltage of the battery: If measured voltage is less then 2.8V the battery is at the end of its life.

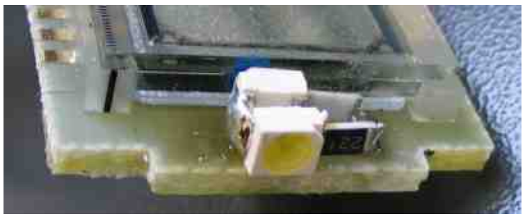
It is difficult to find a lead type battery the same as the original. On old computer motherboards you can find a good CR2032 battery holder. Just drill a hole on the PCB ground plane and place the holder to solder it. Before placing a new battery check the small 10µF capacitor on the CPU board (located near the CPU chip): if oxidation is visible, clean the PCB and replace the capacitor with a 100nF or 1µF ceramic if possible for less leakage current.

S- meter and LCD panel lamp replacement :

The main weak point of the FT-290 is the small incandescent backlight that has to be replaced periodically. This lamp does not handle a voltage greater than 12.5 V and blows at 14 V. It is a real pain in the neck if you do your own repairs: do the replacement once and for all.

It is possible to replace the light bulb by two white LEDs side by side in series with a 470 Ohms resistor.

This modification depends on surface mounted LEDs picked up from mobile phones. The procedure is lengthy due to the removal of the front panel and the stack of printed circuits.



Reverse polarity protection :

The protection against reverse polarity of supply is not sufficient: F5AEG burned the CPU board of his device. By studying the schematic diagram and the device structure we spot a diode (D01 10D1) located on the power jack and PL socket that will shortcut the supply if reverse polarity is applied. This diode is a silicon junction (0.7V) diode and is too weak for strong power. A fuse follows the switch and the diode to protect the device against inside shortcircuits.

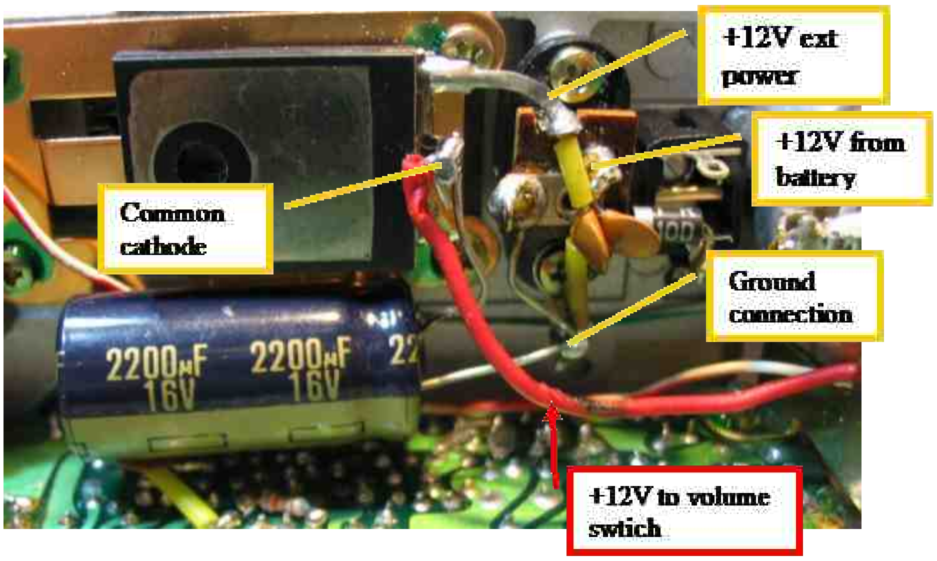
The recommended improvement is to remove the input diode and add a Schottky series diode on +12V of the device. This change adds a voltage drop of 0.3 V max but protects the device absolutely without any trouble. The Schottky diode may be found in a computer power supply, it is the +5V rectifier diode, generally a double 30 A to 60 A 45 V diode.

Remove the parallel diode on power jack and PL socket.

Connect the two anodes of the Schottky diode together. Then solder the anode to the power jack and the cathode to the red wire and +V pole of the capacitor.

Check the capacitor and replace it if necessary with a 1000 µF 16 V minimum. This capacitor protects the device against voltage spikes present on vehicles.

Another idea is to connect the Schottky diode in parallel to the supply after the fuse. In this case the fuse will blow if reverse polarity is applied. If you do this the anode ground connection must be connected to the frame near the fuse on the power supply board. Bear in mind that if the ground impedance is too high the protection will be not sufficient.

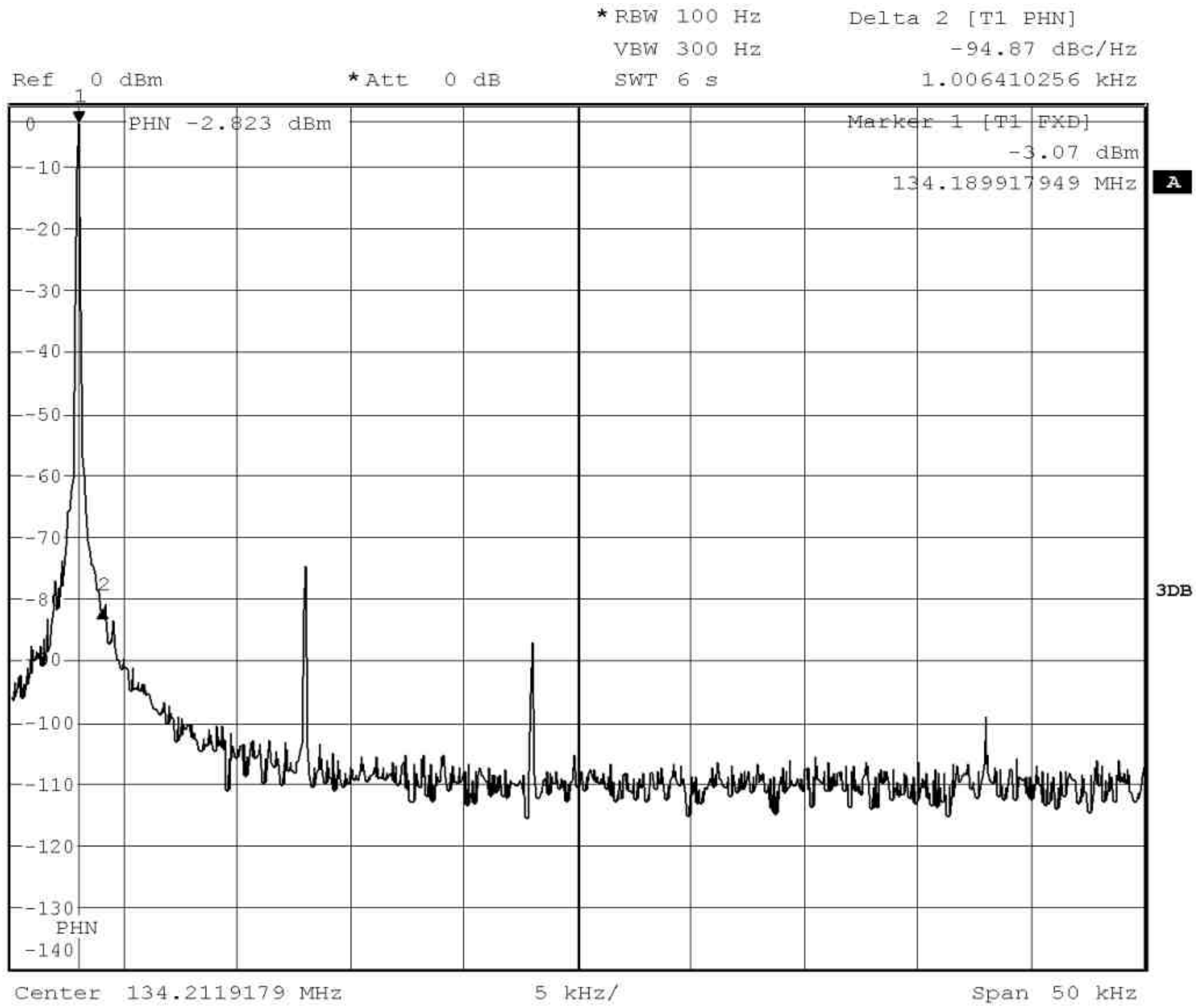


PLL phase noise and spurious.
The signal at Rx mixer gate 2 was measured with an R&S FUP spectrum analyzer and phase noise system measurement.

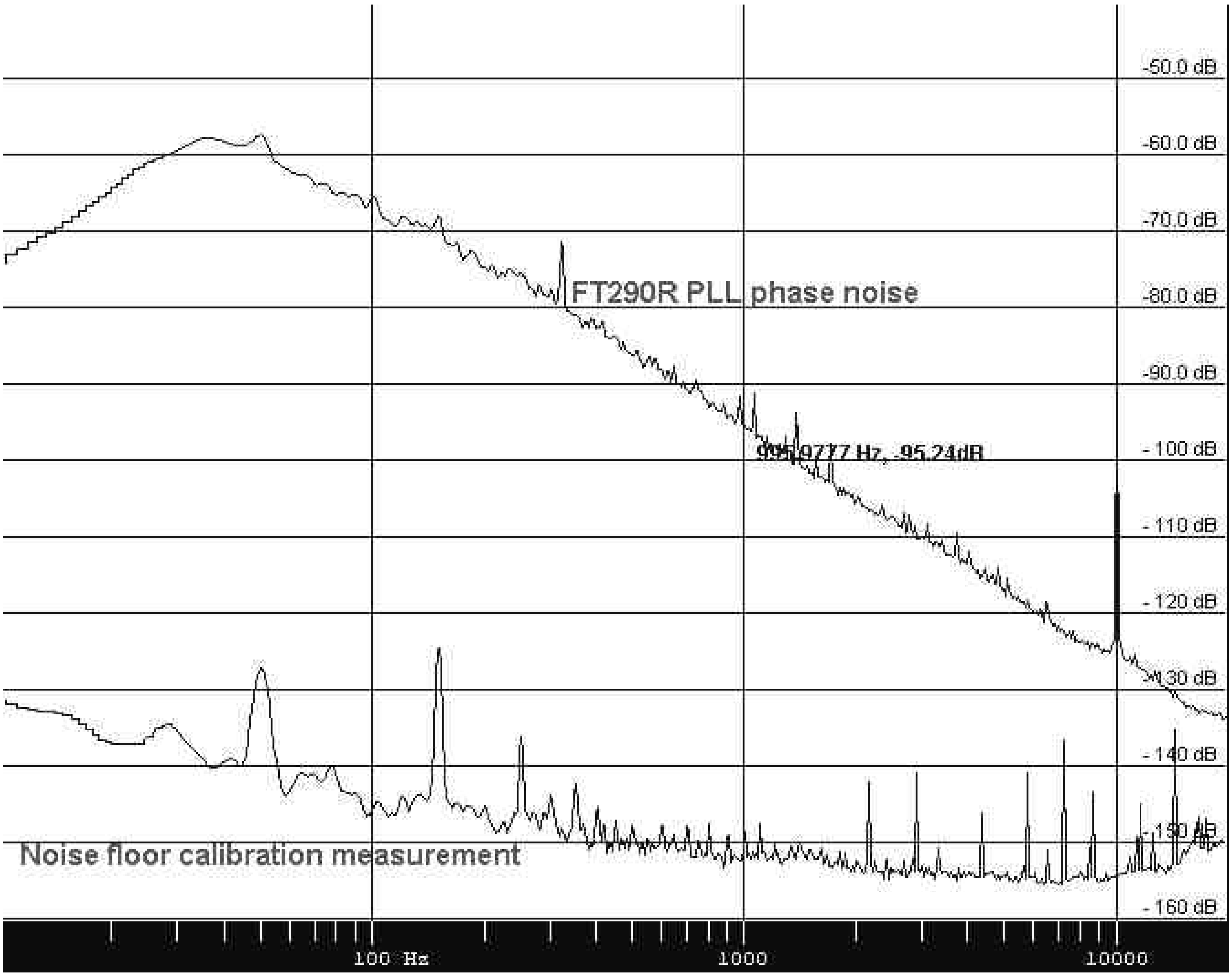
Phase noise:
-95 dBc/Hz at 1 kHz offset
-111 dBc/Hz at 3 kHz offset
-122 dBc/Hz at 10 kHz offset

Spurious:
some residuals from the comparison frequency of the PLL
-70 dBc at 10 kHz offset
-80 dBc at 20 kHz offset
-95 dBc at 40 kHz offset

Spectrum measurement:



PLL phase noise measurement: -95 dBc/Hz at 1 kHz offset



It is possible to reduce PLL noise:

- Limit the frequency range to 144-145 MHz with the jumper configuration on the CPU board. Then adjust the TC01 trimmer capacitor of the PLL's VCO (see alignment procedure) at 3.5 V for 145 MHz. The RF filters on receiving (T1001-T1004) and transmitting (T2001-T2006) section need tuning too.
- Remove the PLL shield and cut the track from pin 8 of PLL circuit to resistor R27 (1k), then add SMD 4k7 to 10k resistor. This modification decreases the noise on tuning voltage.
- On earlier versions the -6.8V voltage is provided by ICL7660 (8 pins DIL IC). Noise is generated on +5.6V, audible in FM mode. It is very easy to improve by connecting a 10µF capacitor between pin 8 and ground.

More information and modifications can be found on the web [3]. I hope these will help you!

73 de F5RCT Jean-Matthieu STRICKER f5rct.jm<at>gmail.com

References:
[1] : http://www.mods.dk/
[2] : http://www.mutekrf.com/index.html
[3] : http://www.whelan.me.uk/radio/mods290i.htm

THE DX NEWS

From the Web (tnx opdx, 425 dx news, arrl...)

2M, SCOTLAND (Satellite Op)

Paul, 2E1EUB, will once again be active as 2M1EUB from March 21st for one week. He will sign 2M1EUB and be active on all the satellites from northeast Scotland. Also, look for him on 160 and 80 meters. Checkout QRZ.com under 2M1EUB for more info.

5N, NIGERIA (EME and Possible IOTA Op)

Bodo, DL3OCH, will be working from here between March 5th and July 24th. Activity will be on all HF bands (160-10 meters) plus some operations on EME. His expected callsign will probably be 5N/KT3Q. There is mention that he may also activate the Bayelsa/Rivers/Akwa Ibom etc States IOTA Group (AF-076). QSL via DL3OCH.

9M8, EAST MALAYIA

Steve, 9M6DXX, will operate as 9M8Z from Sarawak (OC-088), March 26-29th. Activity will include the CQ WPX SSB Contest (March 28-29th) as a Single-Operator/Unassisted/All-Band/High-Power entry. Outside the contest look for him to be on 40 meters SSB using a 3 element Yagi. QSL via M0URX, direct, by the Bureau or LoTW.

PLEASE NOTE: QSL Manager Tim, M0URX, states, "This week 180 QSL cards have been posted by air mail from recent activities. Logs have also been uploaded to LoTW."

AH0, MARIANA ISLANDS

Operators Kuniyoshi/7L1FPU (W1FPU), Yoshiki/KH0UA and Satoshi/N2QP will be active as AH0BT during the CQWW WPX SSB Contest (March 28-29th). QSL via 7L1FPU.

CN, MOROCCO

Hartwig, DL7BC, will be active as CN2BC during the CQ WW WPX SSB Contest (March 28-29th) as a Single-Op/All-Band/Low-Power entry. QSL via DL7BC.

EI, NORTHERN IRELAND (30m Digital)

Daithi, GI7OMY, informs that EI stations will be permitted to commence operating on Digital modes on 30 meters starting March 29th. He plans to activate the club callsign MI0EPC for European Phase Shift Keying Club (EPC) on that day on 10140 kHz. QSL via GI7OMY.

FP, ST. PIERRE AND MIQUELON

Eric, KV1J, will once again be active as FP/KV1J from Miquelon (NA-032) between March 4-9th. Activity will be on 80-6 meters using CW, SSB, RTTY and PSK31. He will also be in the ARRL DX SSB Contest (March 7-8th, 2009). QSL via his home callsign, direct or by the Bureau. Also, LoTW or eQSL. Visit his Web page at: http://www.kv1j.com/fp/March09.html

GJ, JERSEY (EU-013)

Dez, G0DEZ, will be active as GJ3WW during the CQWW WPX CW Contest (May 30-31st) as a Single-Op/Low-Power entry. This will be a holiday style operation. QSL via LoTW or direct to G0DEZ.

J6, ST. LUCIA (NA-108)

Just a reminder that John, W5JON, will be active as J6/W5JON from Marigot Bay between March 1-11th (2009). Activity will be on 160-6 meters SSB using dipoles and 6m yagi. Also, look for activity in the ARRL DX SSB Contest (March 7-8th, 2009). QSL via W5JON.

J7, DOMINICA (NA-101)

John, G3LZQ, will be active as J79WR between March 5-25th. Activity will be holiday style, but he plans to concentrate on 160 and 80 meters, and participate in the upcoming Commonwealth (BERU) Contest (March 14-15th). QSL via G3LZQ.

LT9, ARGENTINA (Special Callsign)

Members of the Corrientes Radio Club (LU4LG), Villa Angela Radio Club (LU4GO) and Chaco Radio Club (LU4GF) will activate the special callsign LT9L from "Esteros del Ibera", March 21-23rd. The place of operation is the Ibera Interpretation Center, located on the shores of Lake Luna, Colonia Pellegrini, Corrientes Province. Access to this location is from the City of Mercedes, from which it is separated on about 120 km of unpaved road. The Center has a showroom with illustrative material about the history, geography and biology of the park. Activity will be on 80/40/20/15 meters using CW, SSB, PSK, RTTY and SSTV. Operators mentioned are: Ricardo/LU4GL (CW), Raul/LU1JB/L (CW), Luis/LU4LC (SSB), Juan Carlos/LU9GDN (SSB), Ramon/LU7LC (Digital) and Nestor/LU4LE (Digital). QSL via EA5FL JOSE MIGUEL ALCARAZ Moncho, PO Box 252, 03700 - Denia, Alicante, Spain.

MJ, JERSEY

Operators David/G3NKC, Dave/G4BUO, Martin/G4XUM and Phil/GJ4CBQ will be active as MJ4K during the CQWW WPX SSB Contest (March 28-29th). QSL via G3NKC.

OM0, SLOVAK REPUBLIC

The rare "OM0" prefix will be activated during the CQWW WPX SSB Contest (March, 28-29th) on 160-10 meters by the OM0A Contest Group. Five operators and one YL will enter the contest as a Multi-2 entry. Operators mentioned are: Villiam/OM0AAO, Martin/OM4AAS, Mimi/OM4AQW (YL), Igor/OM6ACI, Peter/OM6PR and Stevo/OM7KW. QSL via OM0AAO.

PA750, THE NETHERLANDS

A group of radio amateurs in the Assen region will be on the air as PA750ASN during the following periods: March 1st and April 15th, and the month of June and September. Operations will be on all bands and modes. Activity is to celebrate the 750th anniversary of Assen city located in the northeastern part of the Netherlands. Also being celebrated is the 200th anniversary (March 13, 1809) of the city's rights granted by Louis Napoleon. A special QSL card will be available on request. QSL via PI4ASN, by the Dutch QSL Bureau or direct by (QRZ.com) address. NO E-QSL.

PJ2, NETHERLANDS ANTILLES

A Multi-Multi contest effort as PJ2T in the ARRL DX SSB Contest (March 7-8th). Operators mentioned are (*Desecheo Team): *Bob/K4UEE, *Gregg/W6IZT, *George/N4GRN, Everett/WZ8P, David/K4SSU, Elmer/N4LR, Norman/WA4ZXV, Wayne/KU4V, Jim/W4TE, Don/N4HH, Mary/K1MMH, Harry/W4KJ, George/KI4DSO, Jim/ND4V, *Bill/N4NX, *Chaz/W4GKF and Geoff/W0CG. QSL PJ2T via N9AG or LoTW.

TF, ICELAND

Siggi, TF3CW, will be active in the ARRL DX SSB Contest (March 7-8th) as Single-Op/Single-Band (20m) entry. QSL via LX1NO.

TT8, CHAD

Franck, F4BQO, will once again be active as TT8CF between February 27th and July 1st. Activity will be on the HF bands using CW and SSB. QSL direct via F4BQO.

V2, ANTIGUA

Operators Norman/K1DG, John/K1QX and Martin/W1MD (V26F) will be active as V26F during the ARRL DX SSB Contest (March 7-8th) as a Multi-Single entry. QSL V26F via W1MD.

V85, BRUNEI

Kanzi, JA4ENL, will once again be visiting Brunei from March 6-9th. He will be active as V85NL and operate on all bands (including 30/17/12m), especially on 80/40/20m and the top bands mostly on CW. QSL via JA4ENL, by the JARL Bureau or direct.

Look for special event station V88NBD25 to be active until March 10th. Activity is to celebrate 25 years as an independent and sovereign nation. To mark this auspicious and historic occasion, the Brunei Darussalam Amateur Radio Association, the organizer of this special event station, launched a temporary Silver Jubilee Award which is available to all amateur radio stations worldwide and SWLs. For details, visit the Web page at: http://www.bdara.net/calendar_special.html Also, see details at:
http://www.qrz.com/db/V88NBD25

VP59, TURKS AND CAICOS ISLANDS

Dave, W5CW, will once again be active as VP5/W5CW between March 24th and April 8th. Activity will be on 160-6 meters (this will include 30/17/12m) CW/SSB. He will also be in the CQ WW WPX SSB Contest (March 28-29th) as a Single-Op/All-Band entry using the special callsign VP59V.
QSL direct ONLY via W5CW or via PO Box 88, Morris, OK 74445-0088.

VP8, FALKLAND ISLANDS (SA-002)

John, G3VPW, will once again be active as VP8KF between March 5-31st. This is about John's seventh trip to the Falkland Islands. Activity may be limited at first because he will be working at the "Stanley Ionospheric Observatory" for two weeks. However, the last 10 days are set for some DXing. He is expected to stay with Bob/VP8LP and Janet/VP8AIB McLeod (the ones that organized the YL only VP8 operation). When active, John will be on 80/40/20/15/10 meters using CW and SSB. He will also focus on the ARRL DX SSB, RSGB Commonwealth and CQWW WPX SSB Contests. QSL via his home callsign.

VP9, BERMUDA

First time DXpeditioners John/W3MF and Bob/K3PH plan to activate VP9I for the ARRL DX SSB Contest (March 7-8th). QSL via N1HRA. They may operate outside the contest as VP9/homecalls.

YV5, VENEZUELA

Operators Suer/YY5EBV, Jose/YV5BM and Jhony/YV5KG will be active as YV5KG during the ARRL DX SSB Contest (March 7-8th) as a Multi-Single/High-Power entry. QSL via YV5KG.

THE DX CALENDAR
BY SM3CVM, Lars
http://www.sk3bg.se/

MARCH 2009

- 1/3 BRAZIL; PX6B and PY6KW/p SA-080
from Boipeba Island by PT2OP (as PX6B) and PY6KW (as PY6KW/p or with a special callsign). They plan to operate SSB mainly on 20 and 40 metres, with 100 watts into G5RV. QSL via home calls.

- 1/3 MEXICO; XE2HWB/XF1 NA-078
from Isla Magdalena. He will operate QRP on +/- 14260 and 50120 kHz. QSL via home call.

- 2/3 TUVALU; T27A and T27OU OC-015
by N7OU and W7YAQ, their callsigns still have to be confirmed. Activity will be on 160-10 meters, mainly CW, with some SSB
and RTTY. They plan to be an entry in the ARRL DX CW Contest. QSL via their home callsigns, direct or by the Bureau.
- 2/3 IVORY COAST; TU/F8ENY
from San Pedro. He will operate mainly on 20 metres.

- 3/3 BELIZE; V3YN and V31GW NA-180
by DJ4KW (V31YN) and DK9GG (V31GW) will be active from Belize to early March, including a number of contests. From 26 February to 3 March, look for V31YN/p to be active from NA-180. QSLs via home calls (direct or bureau).

- 3/3 PARAGUAY; ZP6/SP9MRO
by SP9MRO and SP9SX will be active holiday style. They plan to operate CW, SSB and RTTY, with main activity to be concentrated during the weekends and the local night hours.

- 4/3 GRENADA; J37BO and J37RO
by K4LTA (J37BO) and K4UPS (J37RO) including the ARRL DX CW Contest as J38A. They will be joined by AK4Z, KT4E and KE4TG, who will be QRV as J3/home call.

- 4/3 CAYMAN ISLANDS; ZF2AM
by K6AM. He will also be active during the ARRL DX CW Contest (February 21-22th) and also the CQ 160-Meter SSB Contest (February 27th-March 1st). He will be doing mostly antenna work outside of the contests, but may get on the WARC bands or even 6 meters a bit as time permits. QSL via K6AM, direct or by the Bureau or LoTW.

- 5/3 MAYOTTE; FH/G3SWH and FH/G3RWL AF-027
their activity will be mainly on 80-10 metres CW. Subject to QRN and site conditions, there may be some 160m CW activity, and some RTTY and/or PSK31. They plan to have two stations on the air for as many hours every day as possible. QSL via G3SWH, direct or bureau (on-line form for bureau cards can be found at http://www.g3swh.org.uk/mayotte.html

- 6/3 SEYCHELLES; S79JF AF-024
from Praslin Island by DL7JAN. Activity will be on 40-10 meters using CW, SSB, RTTY and possibly PSK31. QSL via DL7JAN, direct or by the Bureau.

- 6/3 NAMIBIA; V5/DL2SL
QSL via homecall.

- 7/3 MONTSERRAT; VP2MPL and VP2MPR NA-103
by W1USN (VP2MPR) and AA1M (VP2MPL). They plan to operate CW, SSB and PSK31. QSL via their CBA.

- 7/3 CAYMAN ISLANDS; ZF2UL NA-016
by K3UL active holiday style. He will operate mainly CW, with a focus on 160, 80 and 30 metres. QSL via home call.

- 8/3 The GAMBIA; C5
by GW0ETF on holiday and hopes to do some casual operating from the hotel with 100w and a 20m dipole, mainly CW but maybe some RTTY/PSK31. He must apply for the licence upon arrival, and he hopes to get C56/GW0ETF. QSL via home call.

- 8/3 ECUADOR; HC1MD
from Tumbaco by NE8Z. He will operate CW and SSB on 160-10 metres. QSL via K8LJG.

- 9/3 ARUBA; P40A
by KK9A. He plans to do a casual effort in the CQ 160-Meter SSB Contest (February 27th-March 1st). He will also be in the ARRL DX SSB Contest (March 7-8th) and the CQWW WPX SSB Contest (March
28-29th). He will not be very active outside the contests but will likely spend sometime on 40 meters CW. QSL via WD9DZV.
- 9/3 GUANTANAMO BAY; KG4CN NA-015
Had to postpone his trip to Guantanamo. The new dates are 10-20 April (to be confirmed).

- 10/3 BRUNEI; V85NBD25
Special event station is active until 12 UTC on 10 March to celebrate the 25th anniversary of Brunei as an independent and sovereign nation. Information on the relevant award can be found on the Brunei Darussalam Amateur Radio Association's website http://www.bdara.net/

- 10/3 ANTARCTICA; OR4AX and OR3AX
from the RV Professor Khromov (Spirit of Enderby) and from the region of the Ross Sea in Antarctica by ON5AX and ON3AX. QSL via ON5AX.

- 12/3 NAMIBIA; V5/DJ4SO
He will operate mostly CW and RTTY/PSK31 on 160-10 metres. QSL via home call, direct or bureau. The logs will be uploaded to LoTW.

- 12/3 ANTIGUA; V25TK NA-100
by G3TKK, active holiday style. He plans to operate CW on 40-17 metres. QSL via G3TKK, direct or bureau.

- 19/3 ST. MAARTEN; PJ7/W8EB and possibly PJ7/W8DVC
Activity will be on 160-10 meters, CW, SSB, RTTY and PSK31. Operations will be limited because he is on holiday. Bil will operate in the ARRL DX SSB Contest (March 7-8th) as PJ7B, and as a Single-Op/All-Band/Low-Power entry. Also look for him to be in any RTTY contests. All QSL requests go to W8EB. Visit their PJ7B Web site at http://www.qsl.net/pj7b/

- 23/3 MALAWI; 7Q7AH
by GØIAS for one month. He will try to erect an antenna for 160 metres. QSL via G0IAS, direct only.

- March LEBANON; OD/IV3YIM
He operates SSB and RTTY on 10, 15, 20, 40 and 80 metres, with some possible activity on CW, PSK and the other bands. QSL via home call, direct or bureau.

- March BHUTAN; A52VE
by JA8VE. He had to leave Bhutan on September 3rd due to health problems. QSL via JF1OCQ.

- March CHAGOS ISLANDS; VQ98JC and VQ9JC AF-006
from Diego Garcia by ND9M. He is active as VQ98JC through the end of the year, after that he will use VQ9JC. Expect him to be QRV in his spare time, typically on 12-16.30 UTC (from Sunday to Thursday) and on 12-17.30 UTC (Fridays and Saturdays). Occasional overnight operating will allow him to remain QRV until 1 UTC. QSL via ND9M.

- March ANTARCTICA; VKØBP
from the Davis Basis (main island only) by VK2ABP/VK2MRP. QSL via VK2CA (see QRZ.com).

DX-PEDITION HELP WANTED

We need a good support & sponsors for next dx expedition on MOGADOR island (Marocco)
IOTA AF-065 ww.loc. IM51CM ITU 37 CQ 33
Date : 18/26 April 2009.
Team of the 9 operators :
5C2A - 5C2C - 5C2F - 5C2G - 5C2J - 5C2L - 5C2SG - 5C2Z - 5C2Y
Essaouira IM51CL /P : Mogador island IM51CM /M : Lighthouses A.R.LH.S.
MOR-019 Cape Sim-Essaouira IM51CL MOR-036 Sidi Magdul-Essaouira IM51BJ
MOR-O40 Grand Jetée-Agadir IM50EJ
QSL via bureau > see the letter of the suffix :
A via IK2AQZ, C via IK6CAC, F via I2FUG, G via IZ7GWZ,
J via IK7JWX, L via I8LWL, SG via IZ7ATN, Z via I8YGZ,
Y via I0SNY.
All HF, VHF, WHF bands, all modes (SSB, CW, M.S., RTTY, PSK31).
Pse, reply to : ik7jwx2003@yahoo.it
73 de Alfredo IK7JWX
Sign the guestbook at :
www.sazan2008.altervista.org
www.myspacecom/ik7jwx

ZA0 SAZAN ISLAND DX'PEDITION
BY IK7JWX

My second adventure in Albania on the island of SAZAN:
Iota EU-169, M.I.A. MA-001, Lh. ARLHS ALB-04, ALB-019, ALB-020, WLOTA L-0028.

I would like to describe the sense of joy and the strong emotion, that I felt when I have just arrived on the island of Sazan : the return after six years has been wonderful, especially with the very nice company, formed this time by great Italian friends.

After having gotten all the permissions, both Albanian and Italian, begun the organization of our radio equipments, antennas, amplifiers, etc.

The group components was :

Alfredo IK7JWX from Lecce, Nicola I0SNY from Perugia, Pino I8YGZ from Nocera Superiore, Leopoldo I8LWL from Castellammare di Stabia, Oscar IZ2AQZ from Como.

We installed a Windom HF, a directional Spiderbeam HF, a vertical by I1UJX and dipoles for 40, 80, 160 m., besides directionals for VHF and 50 MHz.; for a total of 4 stations on SSB, CW, digital PSK31 e RTTY, one VHF station also for Meteor Scatter traffic (op. Pino I8YGZ).

One of the station had a ICOM 7400 with TL922 amplifier, two stations were equipped with two Yaesu FT450, a IC7000 and linear amplifiers, always monitoring 50.140 MHz. for a possible E-Sporadic.

We have always operated at the same time on 3 (some times on 4) bands.

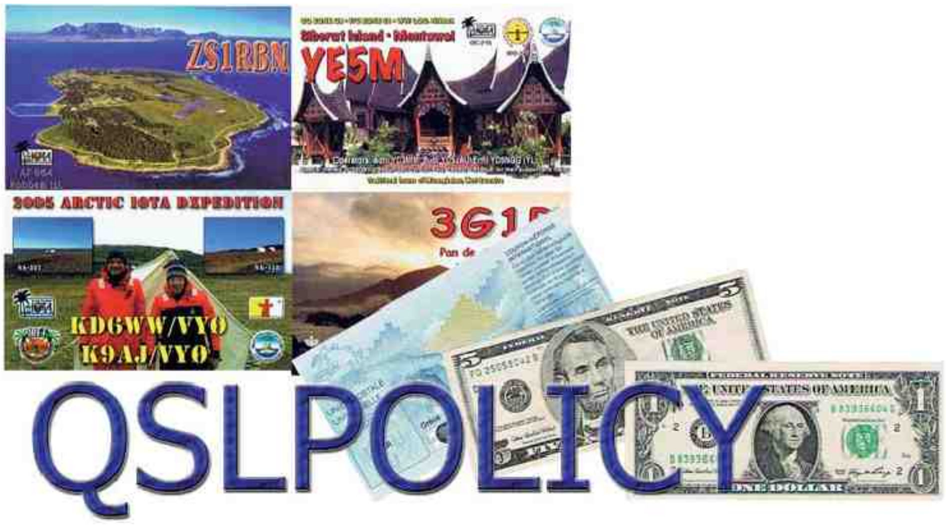
At the end of this fantastic adventure (total QSO 15.228), we want to thank Mr. Gazmend Oketa of the Albanian Office of the Defense, Mr. Besnik Gjonbati of the Albanian Army Forces, the Command of Italian Marines, the commander C.F. Russo Vittorio and the whole 28° Gruppo Navale for the perfect logistic support and great hospitality received, the Delegazione Italiana Esperti (D.I.E.) of the Italian Embassy of Tirana, the Command of Guardia di Finanza of island of Saseno, the A.K.E.P. office (particularly Lady Dervishi e Mister Ilir Shehu) for the temporary licenses ZA0/, the friends C.V. Tiziano Peretti IW0EVL and Coppola Tommaso IZ7JXQ for their precious help, our very good pilot Pasquale IZ8GDO for the compilation of ours beautiful QSL.

Many THANKS to ours sponsors all (See the links in our website) !

We also thank all OMs that had QSO with us and allowed the total of 15.228 contacts.

The ZA0/2008 team invite all to read the various infos on our activity and to see many pictures on our website (in continuous updating) edited by Aldo IZ8IDX : http://www.sazan2008.altervista.org (Don't forget to sign the guest book).

More info on : http://dx-hamspirit.com - http://www.mdxc.org - http://www.myspace.com/ik7jwx



WINQSL
Manfred Meier
Postfach 1269
D-95645 Waldsassen

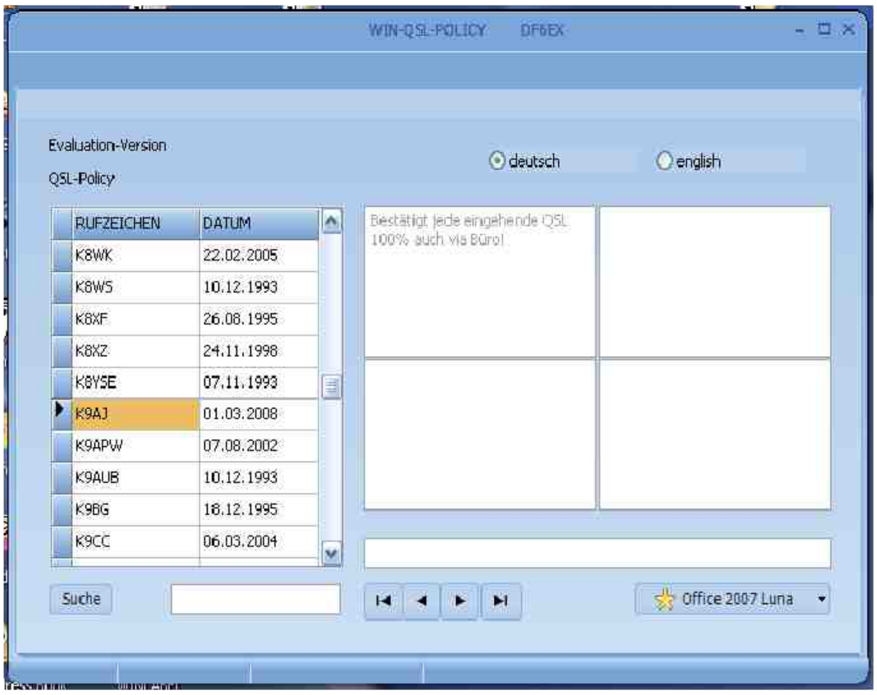
DF6EX@winqsl.de
Fax: 00499632-915668

WINQSLPOLICY is a 32bit-application and runs under all current Windows-Releases from WIN98 up to VISTA. When you´ve downloaded the file from the website just open QSLPOLICYSETUP.EXE with a double-click. In the selection-window you can choose if you like the default-setup-directory (which install directly unter the WINDOWS program-directory in a sub-directory QSLPOLICY). Of course you can select also an individual installation-directory.

After installation you find a new Icon on your desktop called QSLPOLICY.

After starting the program it appears with the sentence Evaluation-Version in the headline.
You can start it up to 100 times but then you have to install a licence-file or the program will no longer work.

Conditions how to get a licence you will find at the homepage: www.winqsl.de



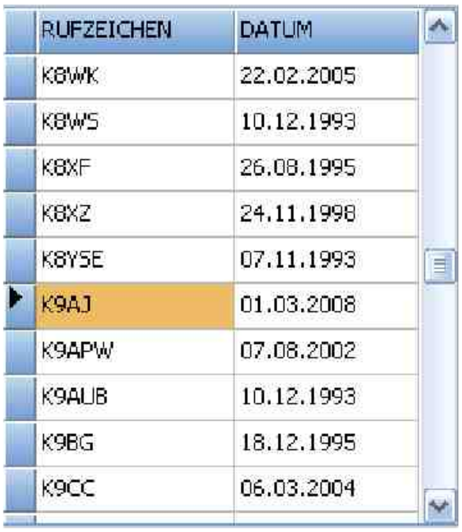
Evaluation-Version
QSL-Policy

● deutsch ○ english

RUFZEICHEN	DATUM
K8WK	22.02.2005
K8WS	10.12.1993
K8XF	26.08.1995
K8XZ	24.11.1998
K8YSE	07.11.1993
K9AJ	01.03.2008
K9APW	07.08.2002
K9AUB	10.12.1993
K9BG	18.12.1995
K9CC	06.03.2004

Bestätigt jede eingehende QSL 100% auch via Büro!

In the database-browser you find beside the call a date-field. This date represents when the info was inserted or last time modified.



RUFZEICHEN	DATUM
K8WK	22.02.2005
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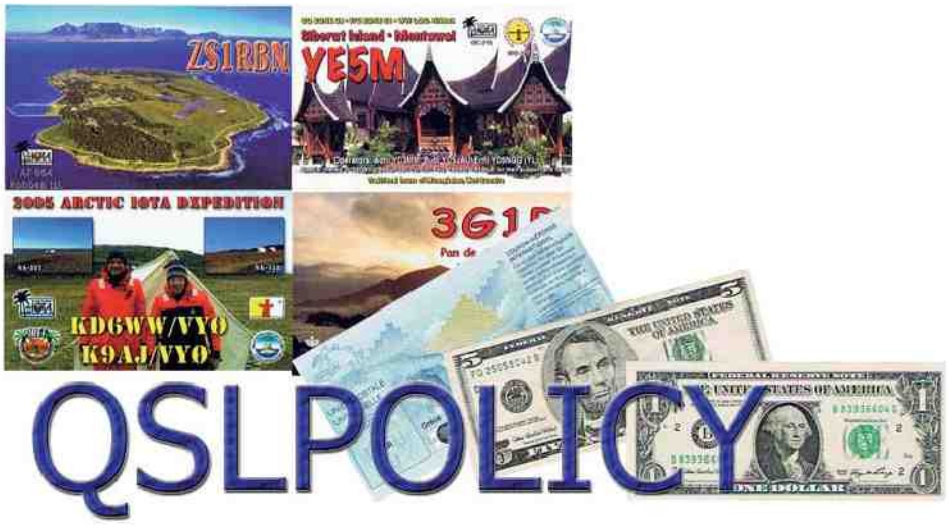
K9AJ	01.03.2008
K9APW	07.08.2002
K9AUB	10.12.1993
K9BG	18.12.1995
K9CC	06.03.2004

After the start of QSLPOLICY the cursor remains blinking in the search-field. Just enter the wanted DX-call or manager-call and press the Enter-Button. If a record was found the database moves and display the recorded QSL-policy.
Also when the cursor is in the search-field you can scroll throuh the database by pressing the arrow-up or arrow-down-key.

Of course you can move also with clicking one of the four arrow-buttons with the mouse to the next/previous/first/last record.



WINQSL
Manfred Meier
Postfach 1269
D-95645 Waldsassen

DF6EX@winqsl.de
Fax: 00499632-915668

Order-Form WIN-QSLPOLICY Club-Licence

Yes, we want a WINQSLPOLICY-club-licence

Name of club:

☐

☐

club QSL-Manager:

☐

e-mail-address:

☐

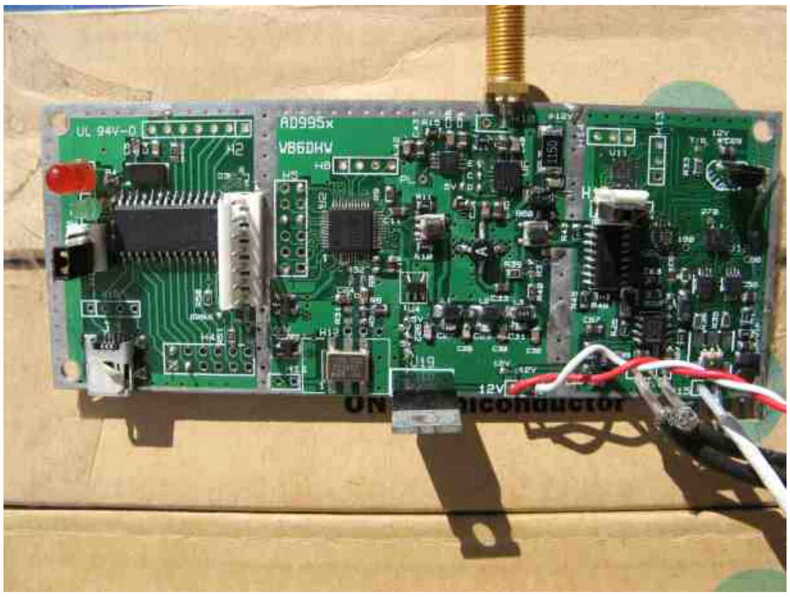
________________________, ________________________

____
Signature Club-official

The Versatile 995x Board

By WB6DHW - Dave

DDS(Direct Digital Synthesizers) are magical integrated circuits. Put in a few 1's and 0's on one end and you get a sine wave out the other end. Analog devices makes the most popular line of DDS chips. Prior to the recent introduction of the AD9910 and AD9912, the AD9951 through AD9954 chips were the highest performing devices. They are available at reasonable price ($24.54, qty. 1, from DigiKey). Analog Devices also has a very generous free sample policy. http://www.analog.com/



The purity of the sine wave and the level of spurious outputs are related to the number of bits in the internal D/A(digital to analog) converter, the clock speed, and the programmed frequency. The AD995x series uses a 14 bit D/A(as opposed to 10 bits in the earlier DDS's such as the AD9850). The maximum specified clock speed is 400 MHz, although every device I have tried has clocked to at least 500 MHz. Generally, the more bits in the D/A, the lower the spurs.

One problem with the DDS chips is they are all fine pitch(0.5mm center to center pin spacing). A second problem is the requirement for either a computer or processor to program the desired frequency. A PC board is necessary. Either an on-board processor with keyboard input and LCD readout or a connection to a computer is required. A low noise 400 or 500 MHz oscillator is also required.

With the recent popularity of Software Defined Radios such as the Softrock ,
http://groups.yahoo.com/group/softrock40/

I decided to control the board from a PC. The Softrock already requires the PC to provide the filtering and demodulation functions. An AD995x(x=1 to 4) would provide a programmable local oscillator(LO) from VLF to VHF. With a 500 MHz clock, the AD995x can provide output up to 200 MHz with 0.116 Hz frequency steps! Because many notebooks and some new desktops no longer have parallel or serial ports, it was decided to use a USB port for control. Because the Softrocks required 2 LO signals in quadrature(2 signals the same frequency but 90 degrees apart in phase – also called I and Q), a quadrature generation circuit was added.

The block diagram of my 995x board is figure 1. As in many designs, feature creep came in. I added a QSD(quadrature sampling detector) to make the board a Software Defined Radio(SDR). Since the board would have an on-board processor, I added a programmable attenuator and a power measurement integrated circuit to allow the setting of output power. The R2 revision of the board contains a modification to allow breaking the connection from the RF output to the input to the power meter. This allows the board to be used as a SNA(scalar network analyzer) from VLF to 200 MHz. Available free SDR software allows the board to be a receiver or a narrow band spectrum analyzer. Additional software could be written to turn the board in to a spectrum analyzer covering VLF to 10MHz.

FIGURE 1

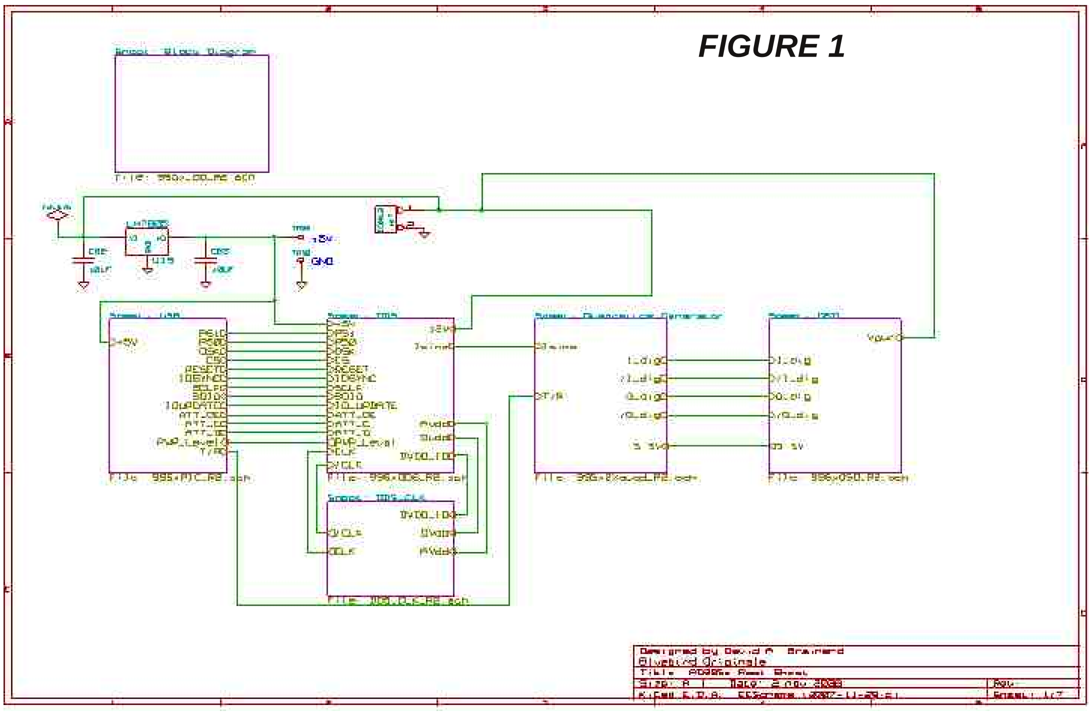


Figure 2 is the schematic of the USB interface. A PIC18F2550 was chosen for its easy availability, low cost, free development tools, the large(32KBytes) program flash memory, and number of I/O pins and on-board peripherals. The design is a clone of the Universal Bit Whacker. http://greta.dhs.org/UBW/ All of the I/O(input/output) pins are brought out to headers. The firmware contains a bootstrap loader. Once the bootstrap loader is programmed into the PIC chip, future firmware changes are done through the USB interface rather than a separate programmer. The bootstrap loader is invoked by holding down the program button, momentarily depressing the reset button, then releasing the program button. The current firmware interprets commands from the PC program to control the DDS, the attenuator, and to read the power meter. The firmware for the PIC18F2550 could be rewritten to allow for stand alone operation with a keyboard and LCD display(this is a future project).

FIGURE 2

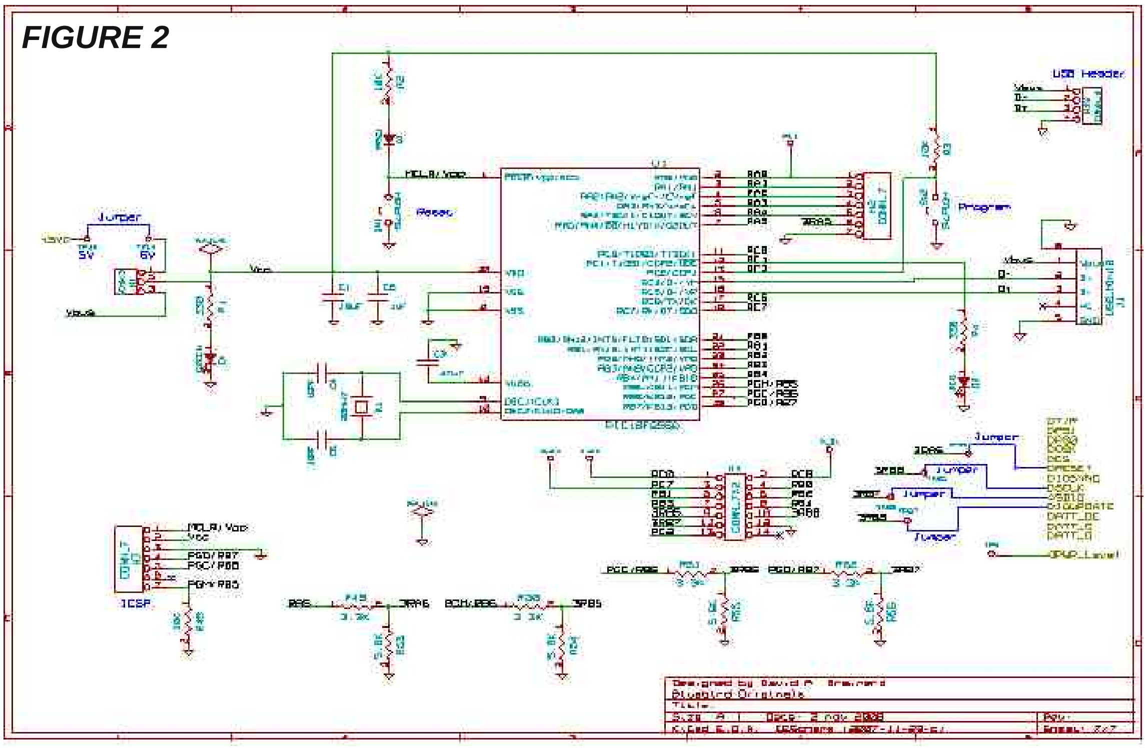


Figure 3 and figure 4 are the schematic of the DDS and associated support circuitry. A separate regulator is used for each of the 3 power supplies required by the DDS. In addition a lot of bypass capacitors and careful circuit layout are employed to keep the digital signals out of the analog circuits.

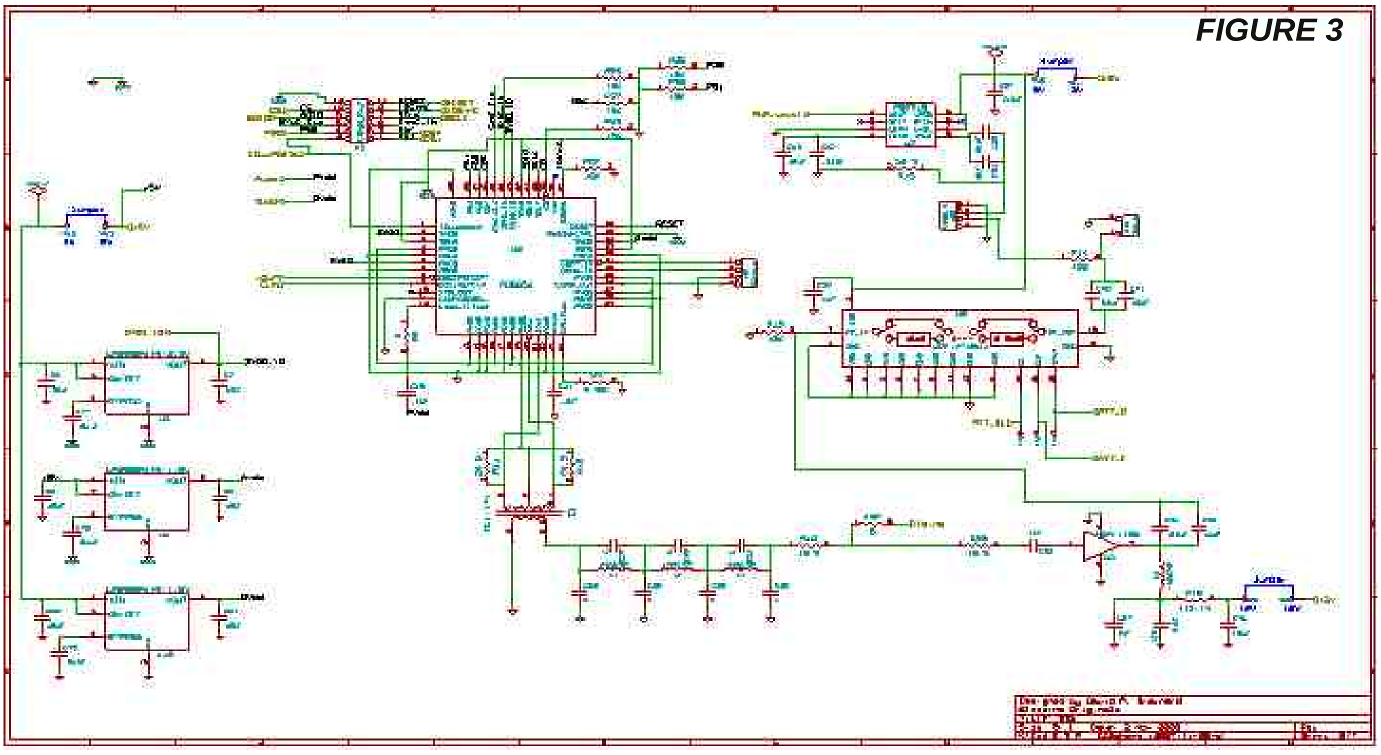


FIGURE 3

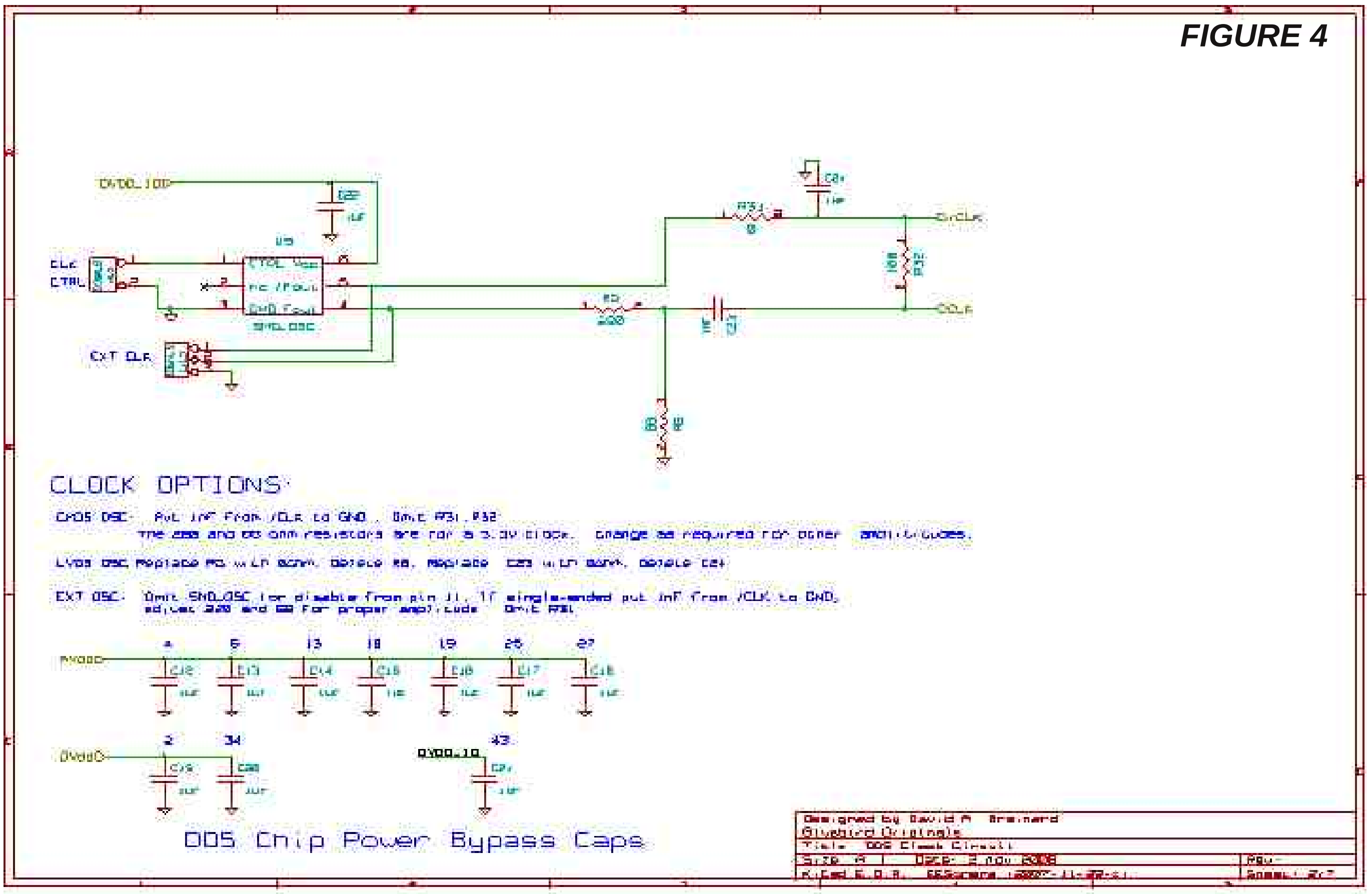


FIGURE 4

DVDD_IO
C22
1uF
CLK
CTRL
U5
CTRL Vcc
nc /Fout
GND Fout
SN_OSC
R31
C24
1nF
R32
/CLK
R3
220
C23
1nF
CLK
EXT CLK
R8
68
CLOCK OPTIONS:
CMOS OSC: Put 1nF from /CLK to GND, Omit R31, R32
The 220 and 68 ohm resistors are for a 3.3V clock. Change as required for other amplitudes.
LVDS OSC Replace R3 with 0ohm, Delete R8, Replace C23 with 0ohm, Delete C24
EXT OSC: Omit SN_OSC (or disable from pin 1), If single-ended put 1nF from /CLK to GND, adjust 220 and 68 for proper amplitude. Omit R31
4
6
13
18
19
25
27
AVDD
C12
C13
C14
C15
C16
C17
C18
1uF
2
34
43
DVDD
C19
C20
DVDD_IO
C21
1uF
DDS Chip Power Bypass Caps
Designed by David A. Brainard
Bluebird Originals
Title: DDS Clock Circuit

A 125 MHz “can” crystal oscillator is used for the DDS clock. The output phase noise is dependent on the clock. The clock selected does not use a PLL to generate the 125 Mhz. This guarantees no spurs and lower phase noise. It is low cost but has a reasonably low phase noise. The DDS internal PLL is used to generate a 500 MHz DDS clock. The board has provision for an external clock input for those desiring ultimate performance. The 125 MHz crystal oscillator may be replaced by a 100 MHz oscillator for those not wishing to push the DDS beyond its specification of 400 MHz.

A DDS is a sampled system. Therefore, outputs appear at mFclock +- Fprogrammed (m is any integer, Fclock is the clock frequency, and Fprogrammed is the programmed frequency). A low pass filter is required to remove the undesired aliases. With a 500 MHz clock, C26-C32 and L1-L3 form a LPF(low pass filter) with a cutoff frequency of 200 MHz.

The output of the LPF is split in two. One output goes to the mmic amplifier and the programmable attenuator. The other output goes to the quadrature generator circuit. If the programmable attenuator output is coupled to the power meter, the PIC processor can monitor the output level and adjust the attenuator to achieve a desired output level. Alternately, the attenuator output can be applied to an external circuit. If the output of the external circuit is connected to the power meter, a scalar network analyzer is created.

Figure 5 is the quadrature generator schematic. The RF sine wave is split into two phases 180 degrees apart in transformer T2. These two phases are converted to square waves by 2 LVDS line receivers. One or both of these square waves are applied to the two 74AUC74's to produce 4 outputs 90 degrees apart. H18 selects the clock source for the 2nd 74AUC74. If both are clocked from the same signal, the output is at 1/4th the input frequency. If the 2nd 74AUC74 clock is 180 degrees out of phase with the 1st, the output frequency is ½ the input frequency. The four digital outputs connect to the QSD circuit through U20. The T/R(transmit/receive) signal, when pulled high for transmit, prevents the signals from reaching the QSD circuit.

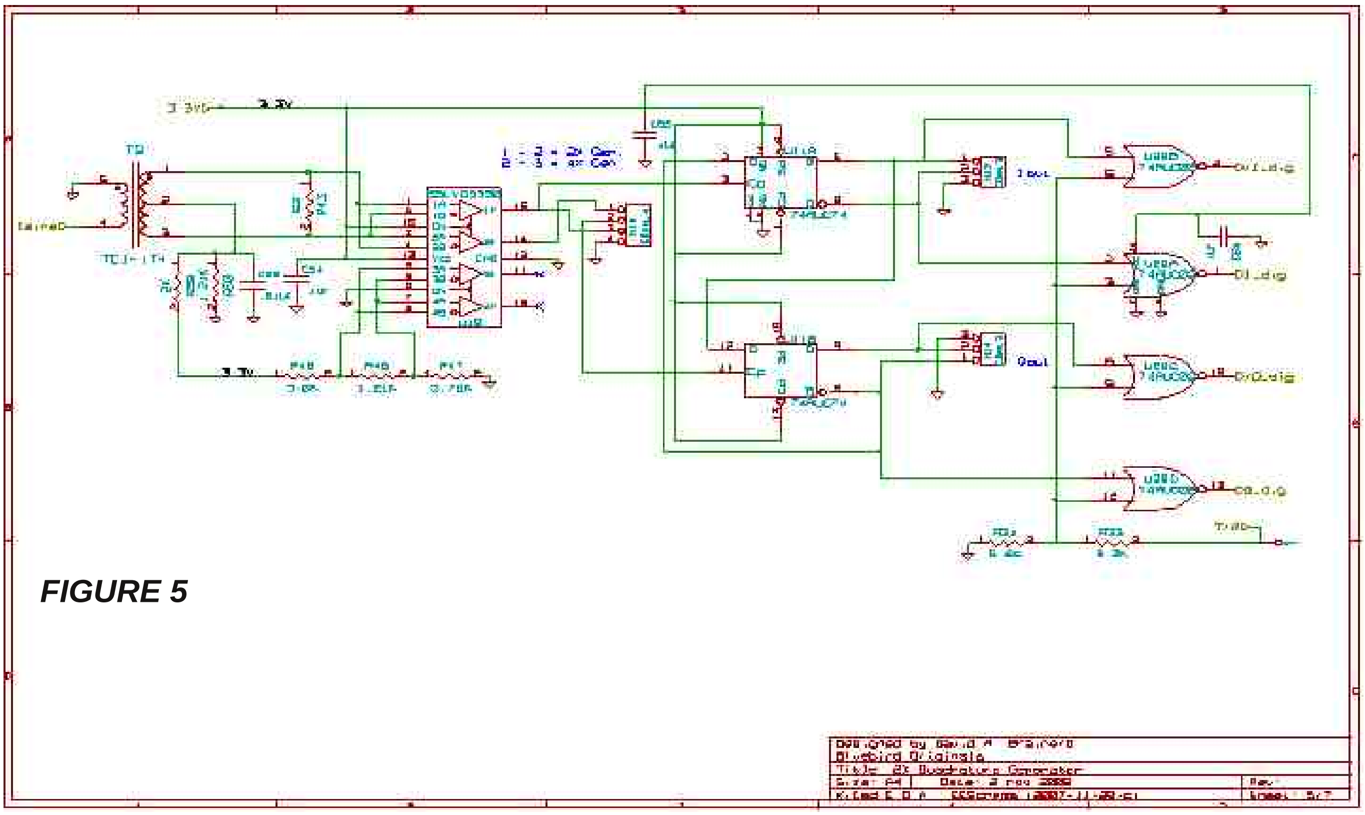


FIGURE 5

Figure 6 is the QSD schematic. This circuit is similar to that of the Softrocks, but with faster switches. The 4 square wave clocks are converted to 4 rectangular waves with a 25% duty cycle by U12. The four analog switches in the two 74AUC2G66 integrated circuits each sample the signal from the antenna for 1/4th of the RF cycle. U15 and the associated resisters and capacitors act as a low pass filter . The outputs of the 2 op amps are sampled versions of the input that are separated by 90 degrees(I and Q samples). If these outputs are fed to the stereo line inputs of a PC audio card, PC software can demodulate and filter the signals. A number of free programs are available for this purpose. If a band pass filter(such as my BPF board) is added, the 995x board becomes a complete general coverage receiver covering LF to at least 80 Mhz(depending on the filters).

Unassembled PCB's as well as details on where to get a parts kit, are available on my for-sale web page (http://wb6dhw.com/For_Sale.html)

A detailed assembly manual with firmware/software loading instructions as well as a schematic and board photos are available on my 995x page (http://wb6dhw.com/AD995x.html)

For the software types, there are several firmware and pc software programs that need to be written to take advantage of the available hardware on the 995x board. These include:

1 - New firmware to allow stand alone operation with a keyboard and LCD display plus a rotary knob. I have started on this and have the pin-outs defined. The firmware should also allow for computer control using standard commands. This could interface to a 995x DLL.

2 - A PC program needs to be written to take advantage of the scalar network analyzer connection. This would allow measurement of filters, attenuators, amplifier gain and power output.

3 - A PC program could be written to use the QSD as a slow speed spectrum analyzer. The SDR software already produces a spectrum display. What is needed is to program the DDS, collect the spectrum, step the DDS frequency, collect the spectrum, and repeat until end frequency is reached. Then display on computer and/or store in a file.

73's Dave WB6DHW

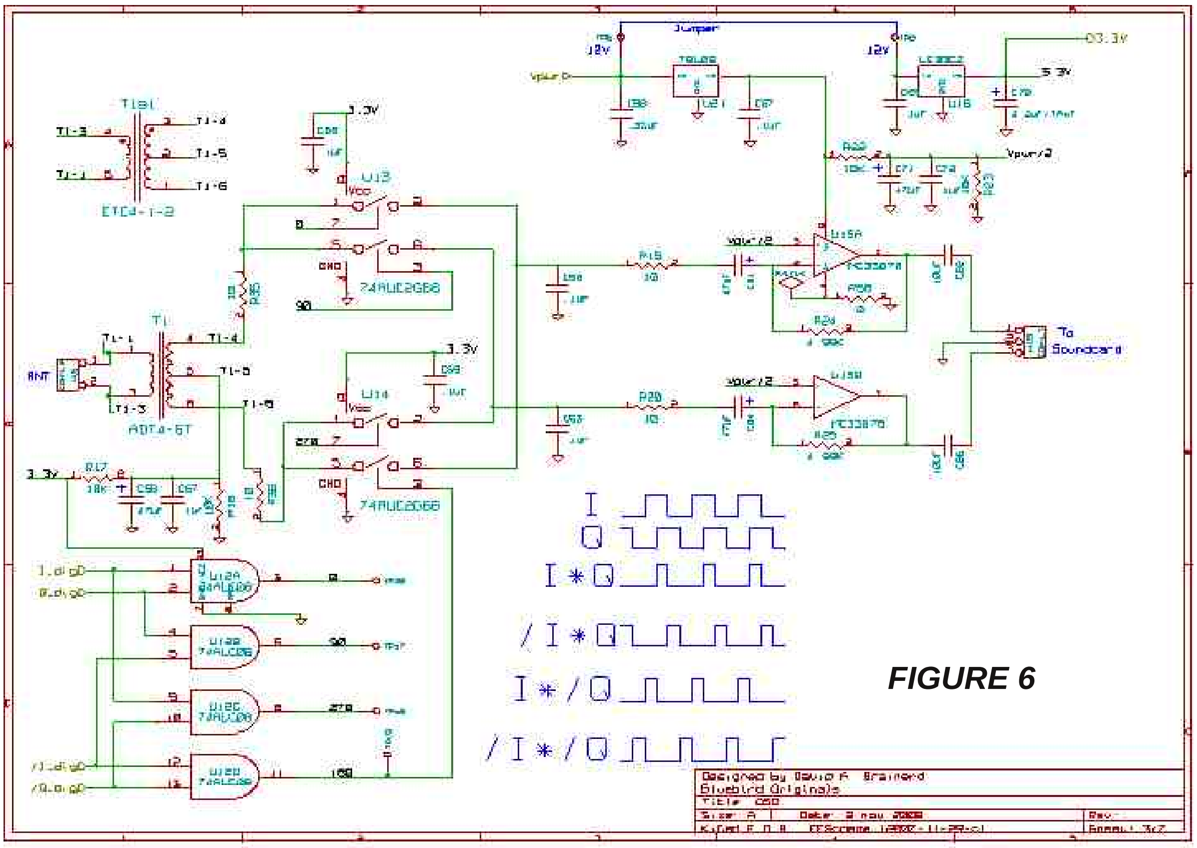


FIGURE 6

COMIC'S HAM

Have some fun

The ham catapult for YL

HUMAN's ROTOR

HAM-MAG

March 2010
[N.14]

Inernational HAM Magazine - 100% HAM RADIO

Coaxial cable Tester

YO2BS, 50 years on the air !

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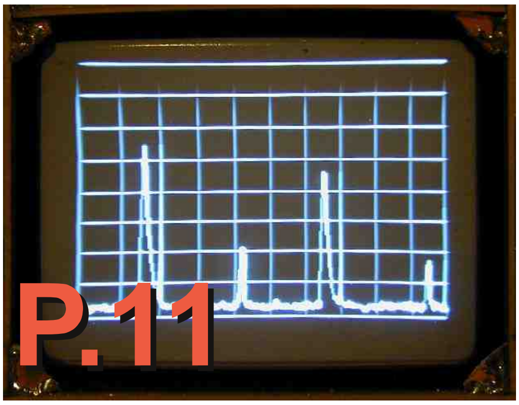

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POST-IT !

The breaking News

Iceland Amateurs Receive New Privileges

As of Friday, February 19, Iceland’s Post and Telecom Administration (PTA) granted temporary experimental access to the 4 and 600 meter bands at least through the end of 2010, according to Islenzkir Radioamatorar (IRA) President Jonas Bjarnason, TF2JB; the ITA is Iceland’s IARU Member-Society. After obtaining a special license from the PTA, Bjarnason said that TF stations with “N” or “G” class licenses may now operate between 493-510 kHz and 70.000-70.200 MHz running 100 W. Amateur operations on both bands are granted on a secondary basis.

Launch of New ARRL Web Site Delayed to "Get it Right"

After meeting with ARRL staff on February 23 -- two days before the new ARRL Web site was to launch -- ARRL Chief Operating Officer Harold Kramer, WJ1B, made the decision to delay the unveiling of the Web site until late March. "Work on the new ARRL Web site has progressed at a frantic pace but there are still some potential 'bugs' that could affect members. We need to be sure we get it right," Kramer said. "Our members' security, information and ability to actually use of all the options on the new site outweigh any rush to meet an artificial deadline. It's just good customer service."

The new Web site -- which will contain the online store, class registrations, audio, video, DXCC information, contest data, individualized member options and other 21st century opportunities for members -- is one of the largest technology upgrade activities that ARRL and Fathom, the company programming the site, have ever undertaken. "Reviewers have been unanimously impressed and are helping make sure we create the easiest, most enjoyable online experience possible," Kramer explained. According to ARRL Media and Public Relations Manager Allen Pitts, W1AGP, the current ARRL Web site is not only used by ARRL members, but is a prime reference source for engineers, hams and wireless technicians around the world, making it the premier place to find information about Amateur Radio, its activities and the sciences behind it. "The Web is our main face to the world, and the new Web site will be fantastic," he said. "Although we all regret the delay, I believe our members will appreciate our diligence about the ease of use, security and navigation for the new site."

Tweets in space - ISS gets web access

In a high tech first, astronauts in space finally have Internet access.

Space station resident Timothy Creamer has been working with flight controllers to establish internet access from his orbital post ever since he moved in last month. He posted the first live tweet truly from space. "Hello Twitterverse!" he wrote. Before, astronauts had to send Twitter updates by e-mail to Mission Control in Houston. Then controllers posted the tweets. The International Space Station crew can now use an on-board laptop to see a desktop computer at Mission Control, and thereby browse the web. This remote internet access is possible whenever there is a solid high-speed communication.

Win a... One year active member of Ham-Mag.
Send us an article and when it is published you win your adhesion.
Tell it to your friends.
Send article to : f5sld@free.fr

Continuous feed source of 14V0-68
By YO6QCZ

The confection ideea of this source came from the feeding necessity of some devices (like: clock , economic light bulb at 12 V , radio stations) because of the lack of electric stream, on a definite limited time period (depends on the bettery capacity).
I've chosen the usage of a slug (Pb) battery with 12V - 7 Ah tight acid (used in a lot of industrial schemes, like : alarms, opening door latches, etc).
I've thought for a scheme with the automatic charge possibility of the battery from the 220V network by the instrumentality of a redressor-transformer and of a 555 tip circuit with the possibility of tuning the charging lintels (up) and (down) with the help of some semi-adjustable.

The charging I is given by the R4 resistance, which is arround the value of 0,2 A. The pieces are mounted on a lay with the exception of the transformer, of the fuse on the battery and of the LED diodes which signalls the state of device.

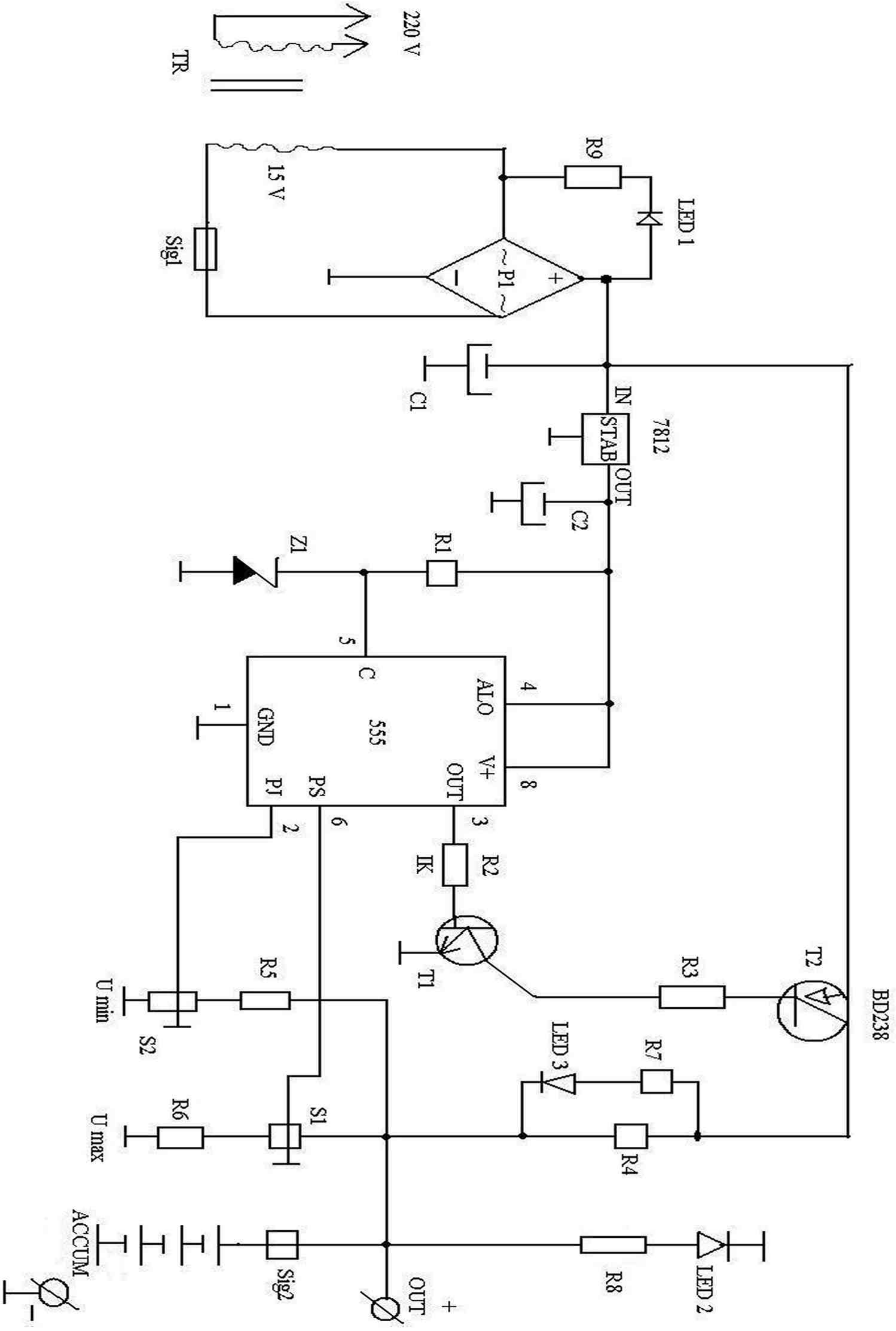
Diode (LED1) signalls that the device is conectet to the 220V network.
Diode (LED2) signalls the voltage presence to the vent + 13V
Diode (LED3) signalls that the battery is charging ; This diode turns on and off automatically at an interval of approximate 30 seconds - based on the voltage tunings - the upper lintel and the lower lintel - of the semi-adjustables. The scheme is functioning from the start, but the two lintel semi-adjustable must be adjusted.

Stuffs list

TR 1 - 220/15V - 1 A
P1 = B100C1500R
Z1 - DZ10V
T1 - BC171C
T2 - BD238
C.I. - NE555
S1,S2 - semi-adjustable 0,5W - 10K
Sig 1 - 1A
Sig 2 - 4A
R1 - 330Ω 10,5 W
R2 - 1K 10,5W
R3 - 330Ω 10,5W
R4 - 24Ω 2W
R5 - 6K - 0,5W
R6 - 18K - 0,5 W
R7 – 220 Ω
R8 – 1K Ω
R9 – 2 K2
Accum = 12V / 7 Ah
S1 - it adjusts for U max = 14,2 V
S2 - it adjusts for U min = 13,4 V

Once made this two adjustments, the device is functional .

I wish you : Success !
Y06QCZ - Dorin


220 V
TR
15 V
R9
LED 1
Sig1
~ P1 ~
+
−
C1
IN
STAB
7812
OUT
C2
R1
Z1
5
C
ALO
4
555
V+
8
OUT
3
1
GND
PJ
PS
2
6
R2
1K
T1
R3
T2
BD238
R5
U min
S2
LED 3
R7
R4
S1
R6
U max
ACCUM
Sig2
OUT
+
−
R8
LED 2

Coaxial cable continuity tester

by John R L Walker ZL3IB

If you are like me you probably have a number of coaxial or shielded cables terminated with a wide range of plugs in your shack. Testing these for shorts or open circuits is made even easier with this ultra-simple project. The original circuit was devised by S. Roberts and first appeared in Electronics World, March 1996 but I have modified it to also indicate short circuits.

How it works.

Green LED1 lights for inner conductor continuity and green LED2 checks the outer shield. If there is a short circuit neither green LED is illuminated since they are both across the cable and increased current flows through the current limiting resistor R1. Consequently the voltage across R1 increases and when this exceeds a threshold voltage set by the Zener diode ZD the red LED3 lights up to indicate a short circuit. The value of R2 may need "tweaking" slightly to compensate for variations in the Zener voltage of ZD.

Constructional notes. Builders may include as many different pairs of sockets as they require. In my case I have included SO-239, BNC, Belling-Lee (for TV antenna cables), RCA phono, miniature and standard phone sockets.

Remember, all the sockets must be isolated so it makes construction easier if you use a non-conducting material for the front panel.

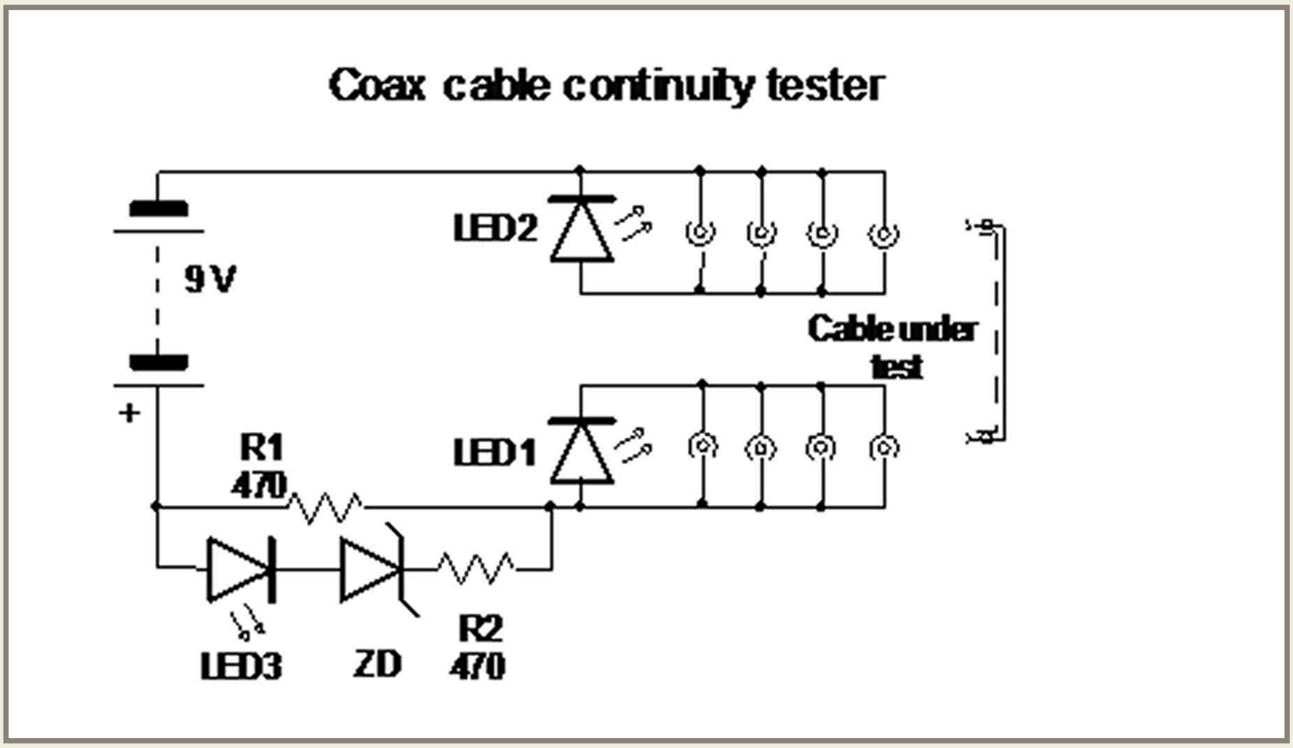
Parts List

LED1, 2	green
LED3	red
R1, R2*	470 ohms, ¼W
ZD	5V Zener diode
Socket pairs	as required

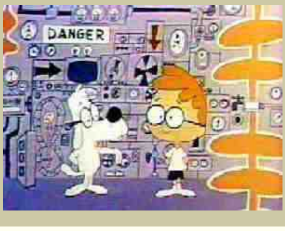
*Exact value may need "tweaking"; see text

(This article was first published in Break-In

73's ZL3IB



Coax cable continuity tester



The Venerable VTVM

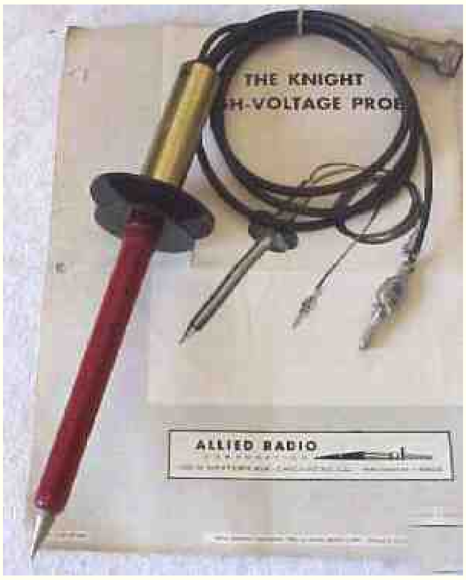
by N4PRT, Patrick

Alright Sherman, it's time to join Mr. Peabody and "Set the Wayback Machine" for 1970. We have arrived in an average sized Midwestern town where we will visit two electronics operations—one a television repair shop and the other a ham radio shack. Observe closely, for we are looking for something very useful that can be brought forward to today's shack workbench.

Remember that these are still the days of the vacuum tube—solid state is becoming more common in home entertainment applications, but for the ham much of his or her radio equipment is still firmly based on "hollow state" devices. In both the TV shop and the shack, there is one piece of equipment that holds a position of prominence at the front of the bench—the vacuum tube volt meter, or VTVM.

An RCA Senior Volt-Ohmyst holds court at the TV shop, while a Heathkit IM-18 built by the amateur presides in the shack. While these two meters look quite different in shape, the surprise is that they have essentially the same circuit inside. In fact, the VTVM has changed little in its design since it was first introduced in 1916.

Having identified our historic prize, we move forward to the present time and examine what a VTVM can do for us today. After all, are not our modern digital (DMM) and analog (VOM) multimeters much more accurate and versatile? As we will discover there are many things that one can accomplish with a VTVM that simply cannot be done reliably or with the same degree or responsiveness as with more modern equipment.



The first task of course is to get one of these handy instruments into our possession. A quick way to find anything is to check eBay. A search of completed auctions reveals that a number of different brands and models can be had ranging from $10-50 in price, with $25 the average cost. Other sources can be hams that are not using these anymore, estate sales, and hamfests. Make sure that the meter you are considering has its probes, powers on, and preferably has a manual.

Quite a few brands are available. A short list of the most common include RCA, B&K, Knight, Heathkit, Eico, HP, Simpson, Triplett, and others. Test equipment manufacturers frequently offered several kinds of accessory probes to round out the capabilities of the VTVM—very similar to those found for oscilloscopes. These included high voltage, RF voltage, demodulator, and even specialty probes for temperature and pH. Due to the universal design of many VTVM's, these probes will often work across brands and models.

Older VTVM's produced prior to the 1960s lack two important features. First, they do not measure resistance—scales only reflect voltages and decibels.

Second, in the early 1960s a 1.5 volt scale was added to improve accuracy when measuring smaller voltages (even a .5 volt scale in some cases). A few models of older VTVM such as the Hewlett Packard 400 series actually had a vacuum tube in the probe itself. Another limitation is that the test leads were usually an integral part of the unit—hardwired to the circuitry and not interchangeable. While these meters can be made fully functional for today's bench, it is recommended that a more recent and versatile vintage be selected.

Now that we have a VTVM on the bench, the real question becomes what can we do with it that our DMM or analog VOM is not capable of? To answer this question let's first look at how the VTVM works. In a nutshell, the VTVM uses a dual triode tube (usually a 12AU7) in a balanced bridge circuit to amplify incoming voltages. This sort of design provides several useful functions. A diagram detailing the most common VTVM circuitry is shown at the end of this article (RCA WV-98A).

The first is that a very high impedance (approximately 10 MΩ) is shown to the circuit under test. This provides a high degree of isolation between the metering circuit and the test circuit—resulting in a very low "load" placed into the tested circuit. Such a configuration is very convenient in low power, coupling, amplifier, and resonant circuits as it does not change the operational characteristics of the circuit. This characteristic is shared by many quality digital meters.

A high degree of amplification in the metering circuit also means that very high resistances up to 1000 MΩ can be measured. This is useful in determining dielectric resistance, leakage of capacitors, transmission line characteristics, and isolation leakage. The amplification factor is also beneficial when measuring small audio or IF voltages, giving one a true indication of the performance of the circuit under test.

A unique ability that a VTVM has that a DMM or VOM does not is to read AC voltages in both RMS (root-mean-square) and P-P (peak-to-peak) values. The common DMM/VOM averages the AC sine wave and delivers an RMS approximation of the voltage. By using P-P voltage measurement, more complex sine waves and other waveforms can be accurately measured—the added benefit being that the P-P measurement coincides with how an oscilloscope measures voltage. Combining the VTVM with a scope delivers waveform observation that shares the same measurement standard.

The measurement of complex sine patterns or other forms such as square or sawtooth is best accomplished with the VTVM. In situations where there are likely to be rapid variances and transient spikes present in the signal, the VTVM shines with its rapid response and ability to correctly decipher the correct voltages at hand. This instrument is also relatively immune to false indications due to interference and strong electromagnetic fields. It is also much easier to determine the minimum and maximum changes in a circuit by following the meter needle than trying to make sense of a wandering digital display. This alone eases any receiver alignment process.

Here are a few of the better uses of your VTVM:

- Measuring coupling and other capacitor leakage
- Troubleshooting audio circuits
- Measuring voltages in tuned and resonant circuits
- Determining reactance and inductance of components
- Alignment of tuned circuits
- Measurement of potential 1500 V and above (with proper probe)
- Direct measurement of high frequency voltages
- Ability to measure DC in the presence of AC voltages

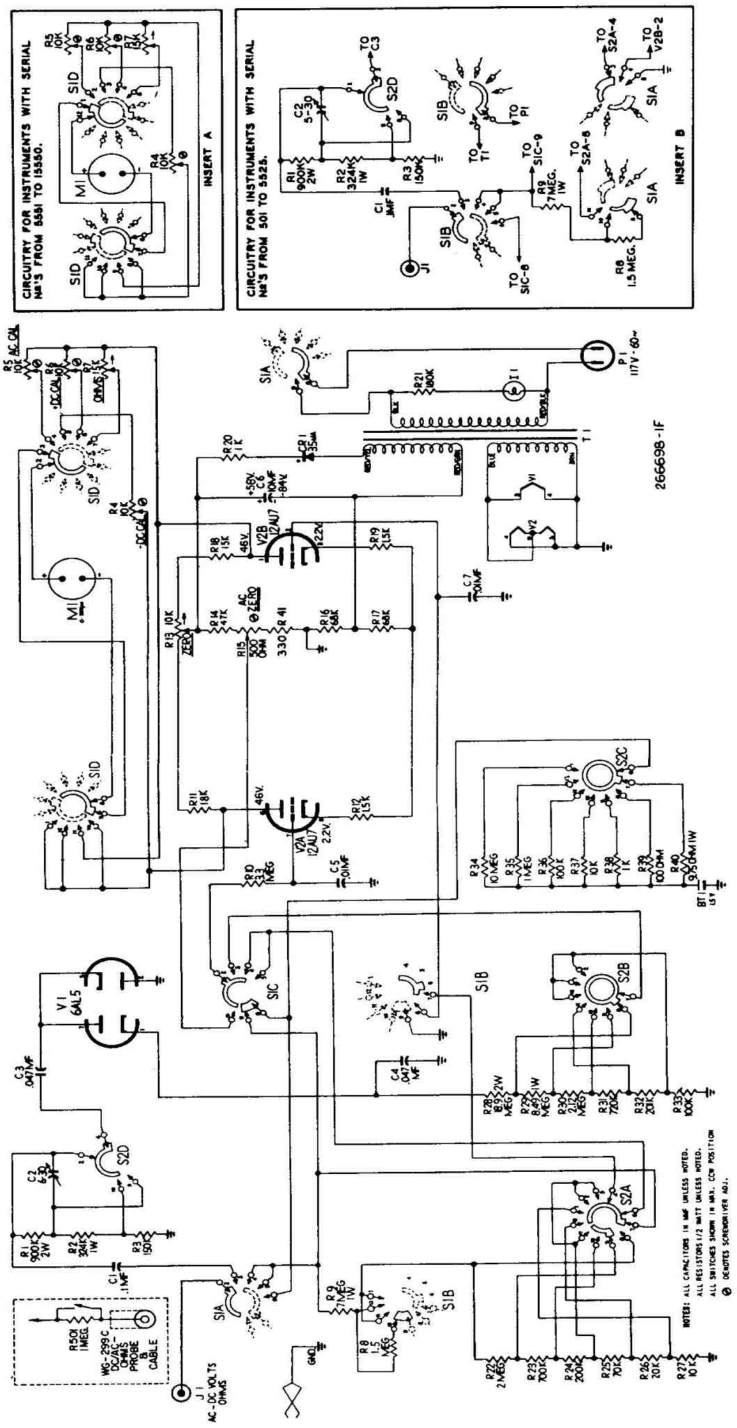

CIRCUITRY FOR INSTRUMENTS WITH SERIAL №'S FROM 5551 TO 15550.
INSERT A
CIRCUITRY FOR INSTRUMENTS WITH SERIAL №'S FROM 501 TO 5525.
INSERT B
V1 6AL5
V2A 12AU7
V2B 12AU7
M1
T1
P1 117V-60~
J1 AC-DC VOLTS OHMS
WG-299C DC/AC-OHMS PROBE & CABLE
R501 1MEG.
S1A
S1B
S1C
S1D
S2A
S2B
S2C
S2D
BT1 1.5V
GND.
266698-1F
NOTES: ALL CAPACITORS IN MF UNLESS NOTED.
ALL RESISTORS 1/2 WATT UNLESS NOTED.
ALL SWITCHES SHOWN IN MAX. CCW POSITION
⊘ DENOTES SCREWDRIVER ADJ.

Figure 6. Schematic diagram of the WV-98A.
For differences in switch wiring for instruments with serial numbers below 15600, see inserts A and B.

· 16 · · 17 ·

As might be expected with any older test equipment, your “new” VTVM will likely need a little care before it can serve reliably on your bench. All paper based capacitors over time will become leaky—and require replacement. Depending upon the age of your unit is may be wise to simply replace the coupling and any electrolytic capacitors that may be present in the circuit.

Rotary control switches and adjustable potentiometers become dirty through oxidation and contamination. These should be cleaned with a quality solution such as a spray on cleaner/lubricant or an application of a solution such as DeoxIT. This applies to calibration trimmers as well—a thorough cleaning and recalibration as given in the instruction manual is recommended.

Interestingly, quite a few VTVM’s used a battery to supply the resistance measurement voltage. A first check of the interior of the meter will look at replacing this battery and repairing any damage done by leakage of an old cell. Some enterprising technicians have tapped into the tube filament voltage to feed a circuit that provides a stable 1.5 volt DC supply—thus eliminating the need for a battery.
Once the dominant instrument in any electronics shop, the venerable VTVM still has a valuable place on the radio amateur’s bench.VTVM Sidebar Resources

Although it has been many years since the majority of VTVM’s were made, a wealth of resource material is still available to the bench technician and hobbyist. A quick search of Amazon.com turned up nearly 20 unique used books detailing meter operation and a variety of troubleshooting techniques.

The most complete reference for these meters is “The VTVM” by Rhys Samuel. Originally published in the mid-1950s, copies in hard and soft cover are still available at a reasonable price. As noted, it is important to have a manual for your VTVM. If one did not come with your meter, a number of online resources exist that will provide you with one.

Here is a list of a resources for the new VTVM user:

Books

101 Ways To Use Your VOM and VTVM
Robert G. Middleton, 1959

Troubleshooting With The VOM and VTVM
Robert G. Middleton, 1962.

Know Your VOM-VTVM
Joseph A. Risse, 1963.

The VOM-VTVM Handbook
Joseph A. Risse, 1972.

On The Web

BAMA Manuals & Schematics
http://bama.sbc.edu/index.htm

73 from N4PRT

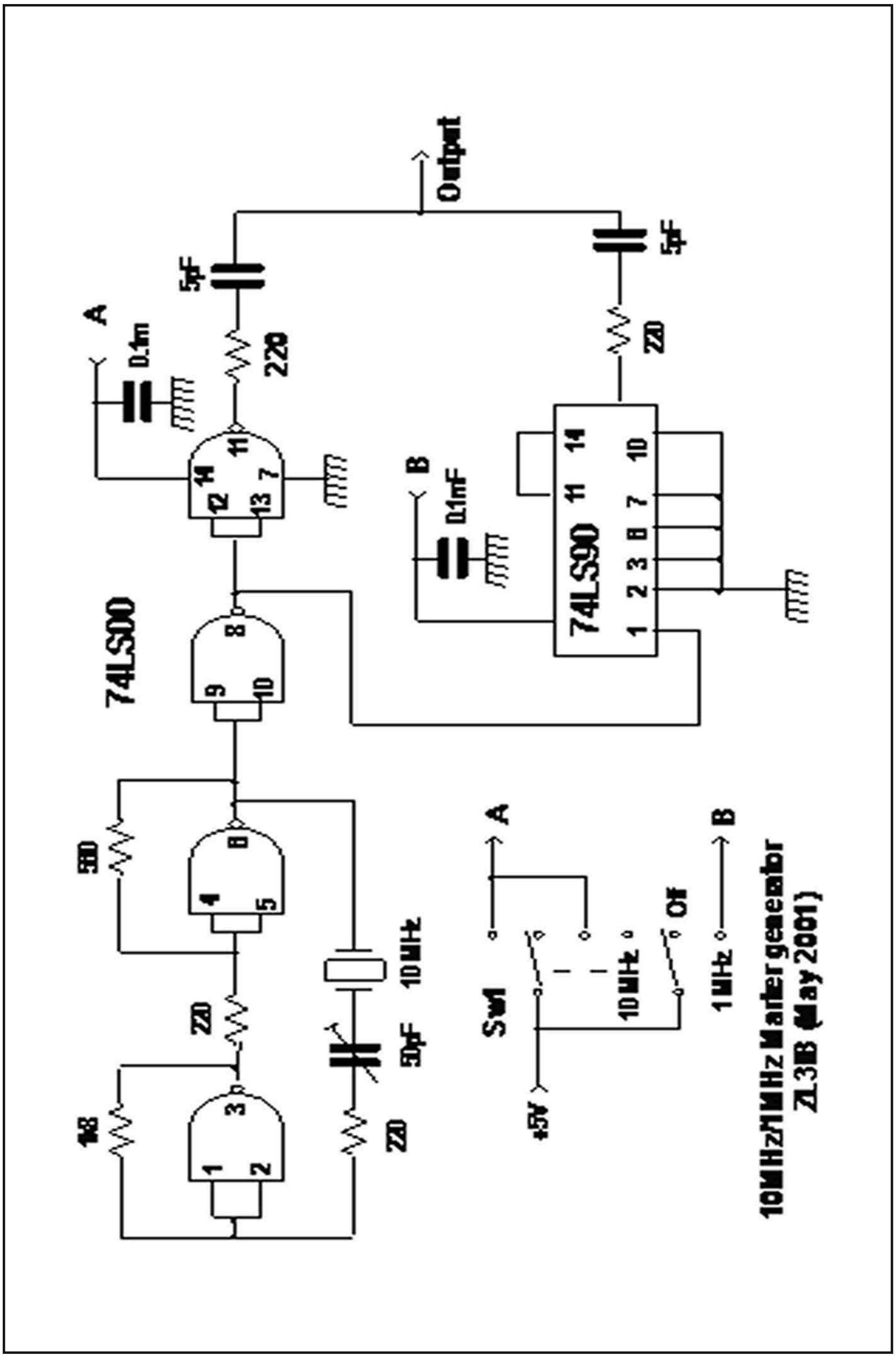
10MHz/1MHz Calibrator/ Marker generator.

By John R L Walker ZL3IB

A simple frequency standard can be a useful accessory in the ham shack. Similarly the ability to include some sort of frequency marker into a spectrum analyser displayed is very helpful and this can be done using an external signal source. However an internal marker is handy so I constructed a very simple 10MHz/1MHz marker generator. This used a 10 MHz crystal salvaged from an old computer and in my unit produces a 'comb' of peaks on my spectrum analyser to over 350 MHz.

Fig below. Marker generator
(This article was first published in Break-In July/Aug 2002)

73 ! ZL3IB



YO2BS - 50 YEARS ON THE AIR

op. Aurel Sahleanu QTH : Timisoara ROMANIA

I Was born 73 years ago in the city of Timisoara, almost a half million inhabitants, which is the second large city in Romania after Bucharest,the capital city.

In the ancient times this territory was populated by Trac tribes (from the Greek branch), which where defeat by the Romans in the year 101-106 a.C. and so they become a part of the Roman Empire during almost 200 years in the beginning of the new era after Christ.

So, the Romanian language is very similar to the other Latin roots languages and for us is very easy to understand Italien, Spanish, French and Portuguese.

The history of our town begins 750 years before,when there has been built a military stonghold,which ruins can be seen till to day in the middle of the city. The first written document found from this period was from mid of the 13th century.

In the 16-17 century the ancient city was under the Turkeys government and than in the 18-19 century under the dual Austrian-Hungary Empire. In the beginnig of the 20-th century, after the first World War, the region of Transylvania (in the center of the country) and the Banat county, (in the extremely western corner of Romania) which capital city is Timisoara become a part of Romania, been populated in majority by romanians.

At the present time Timisoara is a big university and industrial city, with a Sciences University,a famous Technical University and a well known Medical University, with all about 150 000 students. There are also many factorys,in special electrical,chemstry and construction companies. We have many parks, hotels, restaurants, an opera-house,

a philarmonya,three theaters,a nice football and athletics stadium, a big orthodox cathedral,and much more others.

Now about me :

My profession is eletro-engineer,reired now for 10 years. I was working 40 years in the field of electronics,among them 25 years as chief of the Technical Department of the Romanian Radio and Television Broadcasting Corporation,Directorate for the West of the country with the base in Timisoara. I am married with a charmy lady which is my wife and we have two sons,both of them electro-engineers,but no one like to become a HAM. The olderst,emigrate in Canada works for an electronic company in Toronto,and the youngest which emigrate in Germany works by the Siemens Company in Ludwigshafen.

Do have a pretty niece from my oldest son and a lovely nephew from the youngest son. May be they would like to become HAMs,who knows…

My only hobby is amateur radio,and especially DX-hunting on the VHF bands. Don't like contests and UHF work…HI

I discovered the world of radio when I was a 15 years old schoolboy. It was a very interesting event which marked my entire life and also my career :

A day,I think it was in the autumn of 1952,I took the old tube-radio receiver of my family to a repair shop. The radio was out of order next I opened it to see what is inside. After that operation the radio makes a big noise when tuning,and noting else to hear…

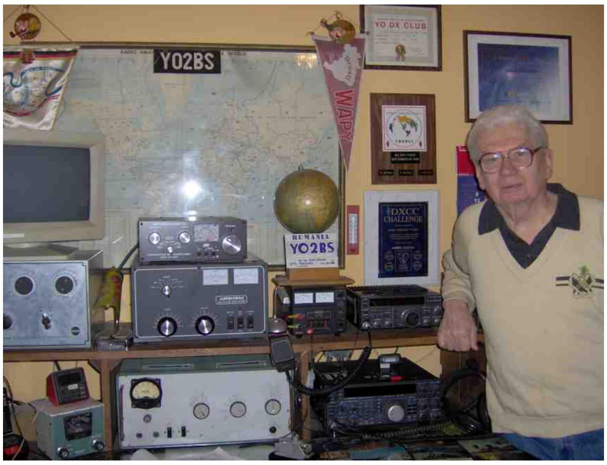
The old man in the shop took a shaving-blade and fix the problem imediately,reseting the distance between the plates of the variable capacitor. When I asked him how much cost the repair,the old man says : “ Nothing “. Than looked at me asked if I would like to help him repairng radios,and he will learn me all about radio-repair. I was astonished and replied him that I am a schoolboy and I must go at school everyday. He says : “Nevermind,you shall come after school,in the afternoon” . After a short thinking I agree,and so I get an apprentice in radio-repair,during the next two years.

I heared from amateur radio as I graduated from the highschool and get a student in the first study year of the Technical University of Timisoara,in the autumn of 1954 year.

Once I saw in downtown a panel with beautiful color QSLcards from all over the world, which impressed me very much (and that’s the reason I love collecting QSL-cards till to day), and an invitation for youth to participate to an exhibition of the radio-amateurs.

There where some exponates of rdio-equipments built by the radio-amateurs,and also a radio-station which makes some demonstrative QSOs. I was very excited and I decided to become a HAM. So I registered my self to the courses for beginners,by the County Radioclub and get instructed in Morse code,radio-traffic,get some notions of radiotechniq Q-code and English language. So,in 1955 I become a SWL with the call sign YO2-215. I was a very enthusiast SWL during the next two years,collected QSL-cards from more than 100 cuntries,and got some SWL awards like DXCC,HAC,HAE and others.

In 1957 I become an operator by the County Radioclub station YO2KAB and in 1959 after passing the third class examination I got my personal call sign YO2BS as a novice operator,and begun working CW on 3,5 and 7 MHz,with a homebrew receiver and 25 W transmitter. In 1961 after a hard examination in Bucharest I got the first class license (for all HF bands,400 W imput).In those times in Romania where nothing to buy from radio transmitters or short-wave receivers. Having the skill and the necessary knowledges I started to built my self the radio-equipment I needed for the hobby. So I built some tubes radio-receivers and transmitters and started working in CW and AM-Phone with 300 W. After apparition of SSB-mode,in 1968 I built an 100 W SSB transmitter and than in 1970 a SSB 5 band 100 W transceiver , a 400 W liniar amplifier,and a 2 element cubical quad antenna,and started working very intensive in SSB,been between the first 5 SSB-users in our town. Being more and more busy with my professional activity,and don’t found any more the necessary time for my hobby radio-construction,I had the oportunity and bought myself in 1975 an HW 101 from Heathkit (a 100 W SSB tansceiver in kit), which I assembled my self in my free time. With this nice equipment I begun effectively the DX hunting. The outstanding propagation in those years,helps me to make beautiful DX-QSOs reaching over 300 countries in CW and SSB and getting also over 50 HAM-awards.



In 1995 I bought a FT 890 AT transceiver from Yaesu and started working in digimodes and in 2000 a Kenwood TS 850 SAT ,a beautiful radio,which I use also in presnt time.

I kept also my old equipments and use the HW 101 for SSTV and RTTY mode,the FT-890 AT for PSK and OLIVIA mode and the TS 850 SAT with the Liniar Amplifier 400W for CW and SSB mode. Antennas I used : the 2 element 3 bander Cubical-Quad is now damaged after a big storm,have a 20-15-10 m GP antenna for the classic bands and another 30-17-12 m GP for the WARC bands on the top of the tower-buiding I live

For the lower frequencies I have a Windom antenna which I use for the 40 and 80 m bands and a shorted dipole (with end coils) for 160 m which are installed between my

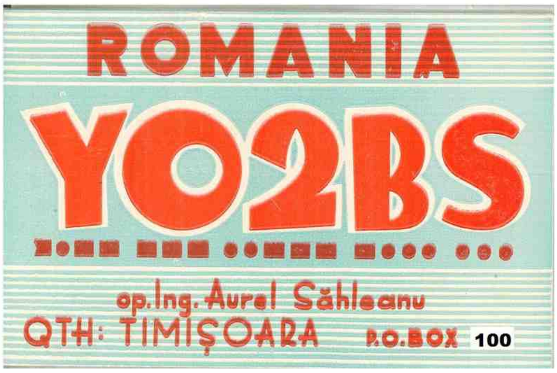
location and another high building.

At the present time I do have confirmed 327 countries (mixed) on the HF bands and look for to carry out the 9 band DXCC (need only 15 more countries on 160 m band).

In our town we had about 20 big DX-men from my generation. Between them I mention the : YO2BA (SK), YO2BB , YO2BC (SK) , YO2BD (now DL9FCD), YO2BI (SK), YO2BL (now DL4VAQ) , YO2BM , YO2BN (SK), YO2BO (now WB2AQC) ,YO2BP , YO2BQ (SK), YO2BS (my self), YO2BU (SK) and YO2BW (SK) .

Today there are more than 30 another young HAMs (with 3 letters at the suffix) which operate especially in digi-modes and also phone on UHF. Unfortunately the new generation of radio amateurs don't know the Morse code (which is not needed any more to get a HAM license),and they could not be able to work in CW which is a big handicap getting a great DX-man,most of the rare DXs (DXpeditions in exotic Islands on antipodes) works only in CW. That's the reason I think the era of the great DX-ers is setting down now. A new communications era rise's and may be one day the most common DX-QSO will be on Digital-TV trough satellites. Will see…

Your friendly Aurel Sahleanu YO2BS.

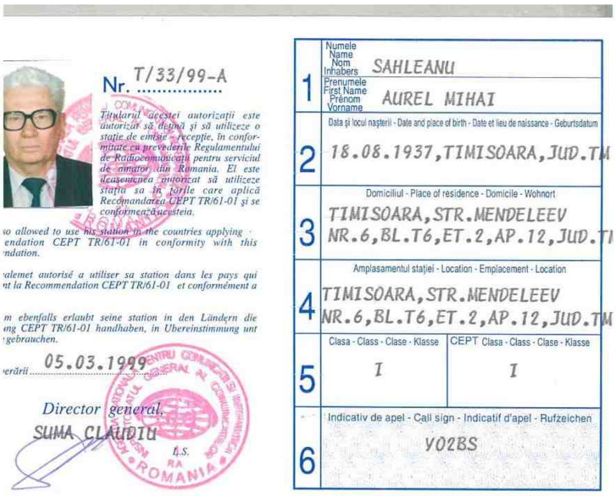


ROMANIA

YO2BS

op.Ing.Aurel Săhleanu

QTH: TIMIŞOARA P.O.BOX 100



Nr. T/33/99-A

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so allowed to use his station in the countries applying endation CEPT TR/61-01 in conformity with this ndation.

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m ebenfalls erlaubt seine station in den Ländern die ng CEPT TR/61-01 handhaben, in Ubereinstimmung unt gebrauchen.

erării 05.03.1999

Director general,
SUMA CLAUDIU
L.S.

1 Numele / Name / Nom / Inhabers: SAHLEANU
Prenumele / First Name / Prénom / Vorname: AUREL MIHAI

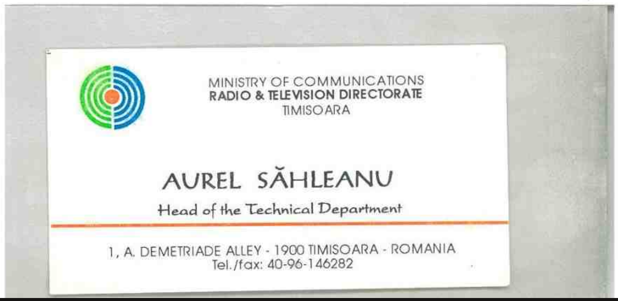
2 Data şi locul naşterii - Date and place of birth - Date et lieu de naissance - Geburtsdatum: 18.08.1937,TIMISOARA,JUD.TM

3 Domiciliul - Place of residence - Domicile - Wohnort: TIMISOARA,STR.MENDELEEV NR.6,BL.T6,ET.2,AP.12,JUD.T

4 Amplasamentul staţiei - Location - Emplacement - Location: TIMISOARA,STR.MENDELEEV NR.6,BL.T6,ET.2,AP.12,JUD.TM

5 Clasa - Class - Clase - Klasse: I
CEPT Clasa - Class - Clase - Klasse: I

6 Indicativ de apel - Call sign - Indicatif d'apel - Rufzeichen: YO2BS



MINISTRY OF COMMUNICATIONS
RADIO & TELEVISION DIRECTORATE
TIMISOARA

AUREL SĂHLEANU
Head of the Technical Department

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80 - 40 Wire antenna
By Chris Wright VK2UW

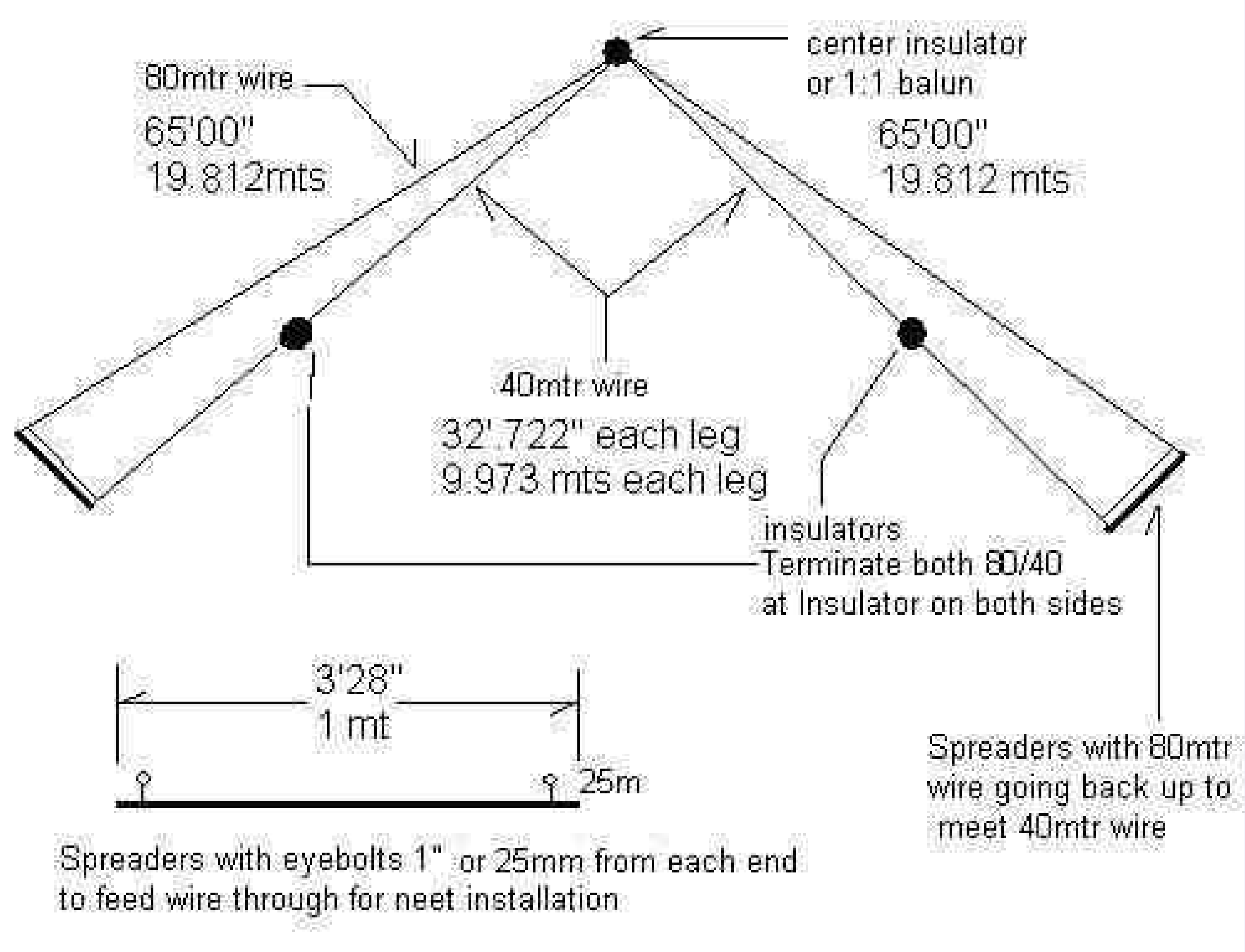
I designed this antenna to suit a small yard where Hams are restricted to either only vertical antennas or trapped antennas.
This way you can use a full 1/2 wave Dipole on both 80 / 40 mts and by doing the same if needed for other bands including 160 / 80 mts etc even down to 15 / 10 mts, you can also lengthen the fibreglass rod so as to make a Fan Dipole to include other bands if needed.
If your yard is smaller again you can lengthen the fibreglass rod so as to shorten the over all length even more.
Feeding the antenna is entirely up to the operator as you can feed it direct or with a 1 to 1 balun. Make the centre point a minimum of 6 mts and drop the ends down to at least 3.5 mts from the ground.
The antenna is easy to tune as all you have to do is let the end guy ropes loose and alter the length of the wire element on each side of the insulator, set the 80 mt one up first : if SWR is lower higher up in the band then just lengthen the wire dipole and the same goes for 40 mts as well.
The heavier the wire preferably a multi strand wire like earth cable is suitable and will give a better band width and low SWR over that range.
I do not use an ATU on this antenna even using my QRO Emtron Amplifier both on 80 and 40 mts.
Power rating depends on how you feed the antenna and the rating of the balun and guage of wire, I usually wind my own baluns by either using Tri-ifular type baluns or a Heavy duty Toroid type with Tri-ifular windings. If using a PVC pipe and Tri-ifular windings it depends on the size of the PVC that you use to wind the windings on as to the power handling and also the wire size come into it as well.
I purchased the fibreglass rod that is used on electric fences and instead of using eye bolts as shown I used PVC pipe and cut it 75mm or 3 inches long and drilled holes 1/2 inch or 12.5mm in from each end and slid these down the fibreglass rods 1 inch or 25mm from each end and drilled a 1/8 hole through the fibreglass just above the PVC pipe and tied a wire through this and down under the PVC pipe and wrapped it round the fibreglass rod so as to stop the insulators sliding together and maintaining the spread at the fibreglass rods.

I also used the same PVC pipe and hole setup for the Insulator where the 80 / 40 mt dipoles are terminated on the lower side of the antenna. These measurements will change due to location / ground factor and how you mount the antenna. The measurements are a guide as this is what the one that I use is set at.

You can use this setup as an inverted "V" or straight dipole steup or even in a "L" shape in the back corner of your yard if needed. You can make up many different types this way for different bands especially for DXpeditions and the like or for travelling.

I also found by just changing the length of the original antenna you can tune in many other bands, so by marking the ends on one or the other of the 80 / 40 dipoles you can have it setup where you want to use it most, and also eliminate the use of an ATU in line.
(Pictures on the next page)

73's de Chris Wright VK2UW



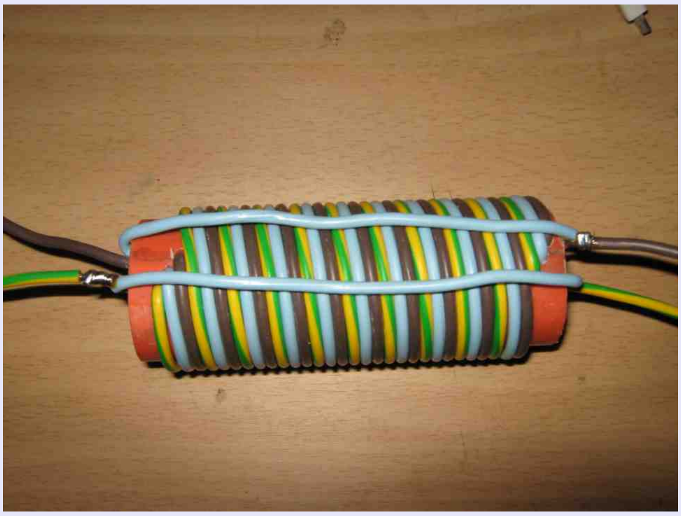
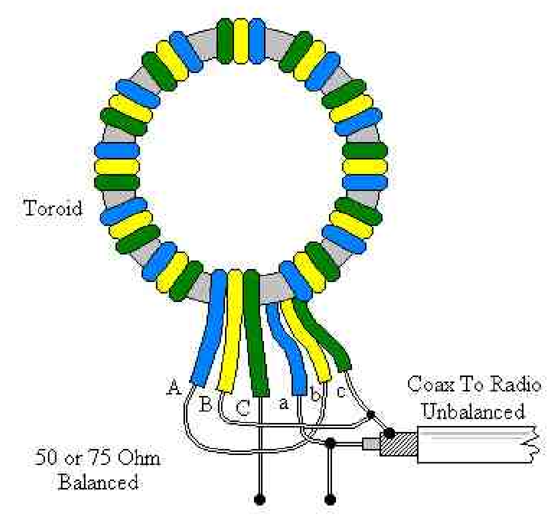
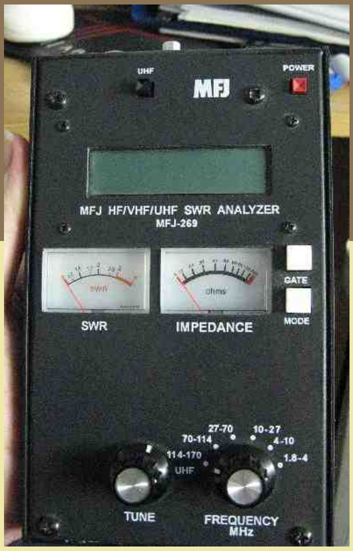


Figure 3 1:1 Balun Transformer

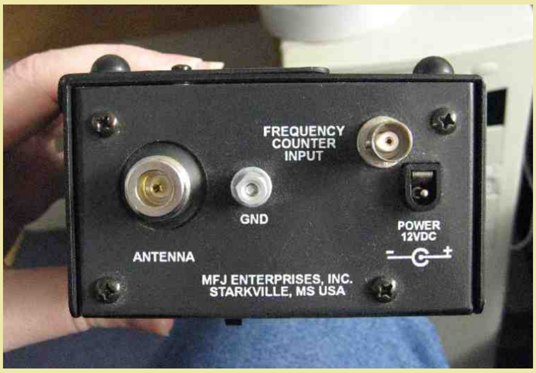


MFJ-269 Review
By VK2ZAY, Alan



After my review of my MFJ-207 Peter VK2TPM offered me his MFJ-269 to play with for comparison. Naturally I jumped at the chance. The MFJ-269 is the fully-featured descendent of the earlier and simpler antenna bridges like the MFJ-207. The manual can be found on MFJ's website.

The device is microprocessor based with an LCD interface and two main control buttons "Gate" and "Mode". There is also a Frequency band switch, a reduction geared tuning capacitor, power and UHF mode switches. Two analogue meters display SWR and impedance magnitude continuously, offering a trending display which is more user-friendly than the figures on the LCD display. In UHF mode there is a "bargraph" of sorts on the 2nd line of the LCD for trending SWR.



The unit tunes about 1.76 MHz to 172.7 MHz in six overlapping bands. There is also a "UHF" switch that triples the oscillator in the 114-170 band giving 415-470 MHz coverage the edges of which are enforced in software, the display telling you to increase or decrease frequency until within that band. UHF supports only loss and SWR features, not reactive measurements - likely because bridge performance issues at UHF would have required extensive calibrations to have any hope of accuracy.

The coaxial connector is a N-type and is surrounded by a generous rubber gasket. The frequency counter input is a BNC. The DC plug is a conventional unit, tip positive, I am unsure what internal over-voltage and polarity protection it has. There is a large grounding lug also provided.

Features

There are 4 "Main" analysis features and 3 additional menus of Advanced ones. The advanced ones are mostly just different presentations of the same data from the bridge voltages (impedance in polar form, reflection coefficient, return loss, etc), but there is the option to select a different "Zo" for the calculations and also a two-frequency point semi-automatic calculating feature for line length, distance to fault, etc. The line length and fault distance calculations are pretty good, resolving several short (~2 metre) lines and offering compensation for velocity factor.

By pressing the "Mode" button you can cycle through the different modes, both main and advanced (once entered). Holding both the "Mode" and "Gate" buttons gives access to the advanced menus. The "Gate" button is used in frequency counting mode and as an enter-key of sorts in the calculating modes. Holding both buttons down on startup then alternatively pressing them as it boots enters the "Test" mode which gives a display of the raw ADC data for calibration of the unit with a set of calibrated dummy loads. The button mashing required to enter "Test" takes some practice, thankfully it isn't something you'd be doing often. The software version is displayed at boot, in this case 4.46, copyright 2004.

Impedance Analysis

The default "main" mode is the "Impedance R + X" mode and displays frequency, VSWR, and impedance as Resistive and Reactive magnitude (Rs +/- jXs) which update continuously as you tune around. The sign of the reactance is not resolved and displayed, which is pretty typical of the bridge system the device uses. The frequency counting is probably the "killer feature" of the device as well as the reactive magnitude display which allows searching for true resonances not just minimum reflection coefficient magnitude.

The impedance mode does seem to work pretty well, especially below 50 MHz, but is limited by the device's calibration accuracy. I am not very confident the unit I was playing with is calibrated properly, resistive magnitudes reads high, sometimes more than double - and above 300 Ohms resistive the reactive magnitude rises very quickly too, even with a "pure" resistance in the lowest frequency band. This and other behaviour I noticed suggests the "Vz" channel gain is a bit high. Upon checking the calibration pots under the battery holder I noticed that R72 was bottomed out, offering insufficient range to properly calibrate the unit as described in the calibration procedure. This is suggestive of mismatched or damaged diodes in the bridge or perhaps an incorrect resistor value or tolerance catastrophe. As the unit is not mine I didn't pull it apart to inspect the rest of the circuit and attempt to diagnose it further.

Coax Loss

The second "main" mode is "Coax Loss". It appears to simply display half the return loss measured by the bridge. When an unterminated coax line is attached the bridge sees the through-and-back (returned) loss of the line, which is twice the line loss for that particular length. Similarly you can attach attenuators and other lossy devices to the unit and measure their loss this way. The loss maximum appears to be 24 dB and is likely limited by the best bridge directivity over its frequency range (ie 48 dB, pretty good). As the unit is measuring with a 12 bit ADC a linear signal (not a log detected one) the dynamic range is pretty limited and the loss quantisation is fairly coarse. For "good" vrs "completely waterlogged" measurements of coax it is likely sufficient.

One annoying thing is the lack of auto-zeroing, this particular unit would always read about 0.9 - 1.6 dB return loss at HF. It would be nice to have software zeroing. In fact I can't see why the entire device could not have been designed to ship with a set of calibration loads and full software fine calibration. I do understand that some of the gain settings are quite critical, especially for reactance zeroing with the limited dynamic range offered by the 12 bit DACs fed by linear detectors. Still it would be nice to have "tare"-style zeroing for some measurements.

Capacitance and Inductance Measurement

The Capacitance and Inductance measurements simply compute the reactor value that matches the current reactive magnitude reading at the current frequency. It has no way of telling if the load is actually inductive or capacitive, and once outside the few ohms to 1.5 kohm range of reactance magnitude the software stops giving you a solution. This makes perfect sense, you just need to tune the VFO until the frequency offers a reactive magnitude in-range of the unit. The computed values are most accurate when the reactance magnitude is close to the bridge reference resistance (50 Ohms). This particular unit read high, about 19 pF high (about 6 pF of which was the test fixture) on average and again there is no way to null it.

Inductance was probably worse but I didn't test it extensively, only a few trial inductances were compared to values measured by my LC tester. The LC measurement is nice to have, but I wouldn't trust it - in fact I'd go as far as to suggest using the frequency counter feature along with an external jig like the LC tester instead.

Correctly calibrated the general measurement method is probably fine and quite useful as it tells you the true impedance of the reactive component at radio frequencies (unfortunately only those that present a 7-1500 Ohm impedance). For testing a component for spurious resonances this is very useful, but in practice I couldn't seem to easily find misbehaviour in capacitors. Inductors on the other hand were fairly easily tested for self resonance, but being placed in the tester environment pulled their self-resonances quite a lot. Dipping them instead is probably more reliable.

Frequency Counting

The frequency counting feature works as advertised. It can accept signals up to 5 volts and has an high-impedance input. I could easily get a stable measurement with just a few turn coil plugged into the input using my dip meter as a signal source from several inches. The counter counts to beyond 170 MHz, I didn't test it higher. I assume the "UHF" feature actually counts the VHF generator and triples the value in software? I can't see a counting range spec in the manual. The gating works as expected, long gating times give more resolution figures. The reference seems stable and accurate enough for the resolution offered.

Advanced Features

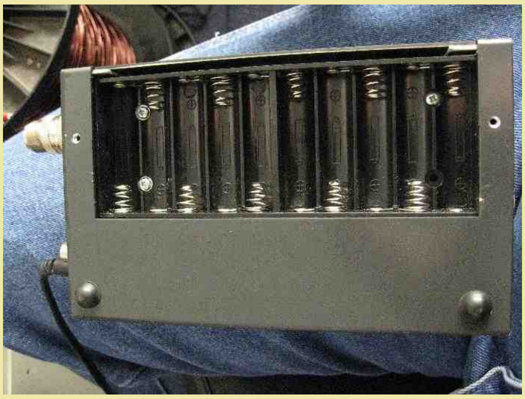
Of the "Advanced" modes the stub length and resonance searching ones are probably the most useful. The stub length helpers are great for cutting matching and phasing stubs. Accuracy for 1/4 lines seems pretty good when compared to dipping a line with other instruments. It is unfortunate that the physical lengths are only given in feet. A metric physical measures software option would be nice, but considering this is a US product this is perhaps not surprising. The resonance searching mode makes the Impedance magnitude meter show Reactive magnitude while looking for a null. Oddly it does not use the LCD bargraph like SWR in UHF mode, instead showing Xs numerically.

The match efficiency mode is arguably the most useless feature. I'm not really sure what the point of it is. I guess there was extra room left in the MCU code space, so yet another "feature" was invented to fill it. Personally I'd prefer metric measures or software nulling instead.

Use as a Dipper

I understand there is an optional dipper coil set for the MFJ-269? - I just plugged my few turns of wire on a BNC into it and tried it out on some inductor self-resonances. It works quite well on HF and VHF. I'm not too confident about it on UHF, but the UHF range is quite narrow which makes it fairly useless for dipping anyway.

Power Consumption



The device does guzzle power. On HF-VHF in the default mode it pulls 140-170 mA (rising with frequency). On UHF it pulls over 350 mA! In counter-only mode it still pulls 90 mA. The AA batteries won't last long, and it takes 10 of them. Unlike the MFJ-207 at least you only need to remove two short machine-threaded screws to access the batteries.

The external power option is almost mandatory (use at least a 500 mA plug-pack), but it does offer the ability to charge rechargeable batteries inside the unit by changing a jumper on the PCB. I have no idea how well it manages them if you choose this option.

By default the unit enters a sleep mode to reduce power consumption after a period of inactivity. This would help extend battery life, but it still pulls more than 50 mA. The sleeping feature can also be disabled by holding down buttons while the unit is powered on and remains disabled until the power is cycled again, much like Test mode.

Comparisons to the MFJ-207

The 207 is very basic compared to the 269. The 269's frequency counting and reactive magnitude display are its best features. The 269 has none of the FMed oscillator problems of my particular 207 and has much improved buffering and harmonic distortion. There is a pot in the 269 for setting buffer bias up to minimise the harmonic energy. I didn't test it extensively, but there is a detailed procedure available using a coax stub instead of a spectrum analyser to ensure this is set correctly.

Tests with narrow band antennas like my balcony HF vertical and bicycle loop antenna show it is very much improved over the 207. I can resolve the resonance of my balcony vertical on 80 metres with the 269 fairly easily where it is next to impossible with the 207.

I even tried measuring a colourburst crystal with the 269. The xtal resonance is very steep and the analyser tries its best, but it is simply not sufficiently stable or well buffered enough to stay in the resonance. You can detect it and even get a fairly good idea of its frequency however, and see spurious resonances of the xtal as well.

The 269 covers part of VHF where the 207 stops just above 30 MHz - and the 269 also has the narrow UHF option. On UHF the 269 is essentially as limited as the 207 is on HF, measuring just return loss. I am highly suspicious of the UHF feature's accuracy and debate it actual usefulness for most HAMs.
Like the 207 the 269's SWR meter is largely just for trending.

The calibration point is 2:1 (using a 100 Ohm load), above and below this the displayed figure is quite wrong. The LCD display however shows the correct figure, at least below about 5 - and of course if the unit is calibrated properly. (The impedance meter is a bit better, its calibration point is 50 Ohms using a flat load. Again the screen gives a more accurate reading.)

Summary

The good:
- Frequency display
- Reactance magnitude display
- Separate impedance and SWR analogue meters
- Mechanical reduction driven tuning capacitor
- Display options including RL and P
- Fairy compact unit, self contained
- Reasonable accuracy (if properly calibrated)
- Fairly stable and pure local oscillator
- Internal battery charging option

The bad:
- Large power consumption
- No nulling options (especially for L/C measurement)
- Imperial physical length measurements
- Analogue SWR meter scale calibration is poor
- Tendency to arrive broken or poorly calibrated

On the last point the evidence is only anecdotal... Well, the unit I played with has a poor calibration and Peter experienced a lot of problems with it himself. His is not an isolated experience if you search HAM forums.

Conclusion

The MFJ-269 seems to be designed quite well. I am sure with careful calibration it is capable of quite reasonable accuracy over HF and into VHF. I strongly suspect it would be quite difficult to design something more accurate without ending up building a true vector network analyser with log detectors and synthesised local oscillators. With recent advances in technology it might be possible to build such a device for about the same asking price, but I am sure the development costs would place its initial RRP closer to $1k, making the MFJ-296 look like quite a bargin.

Is the MFJ-269 overpriced? Well perhaps. Especially in the light of the horror stories out there about some HAMs experiences with the unit. How many of them are due to "operator error" is unknown, but MFJ is very well known for having quality control issues, so it is likely that many are real hardware problems. Fortunately there is also a great deal of support available for the unit, with MFJ sending part kits out to repair blow-up or factory-buggered units. By virtue of its ubiquity (and from the earlier 259 and 259B units) the HAM community has plenty of resources for fixing busted MFJ-269s.

Would I buy one? If it was < $300 AUD - yeah I would take the risk of getting a lemon. I would feel more comfortable if there was a circuit diagram in the manual, that way at least I could fix it easily enough. There are diagrams online that profess to be of the 269 or 259/259B, they seem pretty correct but I haven't extensively studied this loaner unit for comparison. There is a calibration procedure available, and one for the 259/259B as well from the original designer, but note that the 259 has 8-bit ADCs so the hex values displayed on the 269 and the pot numbers don't match this page - still it is a useful read and the document on the MFJ site seems to match the general guidelines when you convert to 12 bit numbers.

Unlike a VNA-solution the MFJ-269 isn't tied to a PC which is important for field work on antennas, but this is becoming less of a problem with USB-based VNAs that can run from a Netbook form-factor PC, perhaps it would be best to save the money and invest in a VNA as many of us already have a netbook PC, especially for use in the lab rather than just antenna work. Still, it would be nice to have it all in the one portable box like the MFJ-269.

73's ! VK2ZAY

DX NEWS
From the Web (opdx)

5K, COLOMBIA

A DXpedition is being planned to operate from the Laguna Grande de la Sierra, from where you get the legendary rock formation called Devil's Pulpit, the peak Sugarloaf Peak and Concave. Callsign will be 5K7SNC. This will be only a two day operation. Announced dates and hours of operation frequency are:

April 1st - 7140 kHz between 1700-2400z
April 2nd - 7140 kHz between 0000-1700z

QSL via HK3OCH. For more details and possible updates, visit QRZ.com under 5K7SNC.

5R, MADAGASCAR (IOTA Op)

Michele, IK5ZUI, will be active as 5R8UI from Nosy Be (AF-057) starting early March. He will stay there possibly for one year. More details are forthcoming.

7P, LESOTHO

Pista, HA5AO, will once again be active as 7P8AO from the Trading Post Lodge, Roma near Maseru, between March 8-22nd. Activity will be on the HF bands, 80-10 meters using CW, SSB and RTTY. He will be using an ICOM 7000 transceiver w/300 watt amp into a 10.2m wire vertical antenna with a SG-235 automatic antenna coupler. QSL via LoTW, or via HA5AO by the Bureau or direct. An online log search will be available on Pista’s Web site at:
http://ha5ao.novolab.hu

8Q, MALDIVES

Alex, UX4UL, will be active as 8Q7IA from the Maldives (AS-013) between now and May 18th. Activity will be mostly CW and PSK. Currently Alex has antennas installed for 40/20/17 meters. QSL via UY5ZZ.

CO6, CUBA

Operators Luis/CO6LP, Orelvis/CO6LC, Yordany/CM6YAC, Carlos/ CO6CAC, Jose/CO6EC and CO6YWR will be active as T46A during the ARRL DX SSB Contest (March 6-7th) as a Multi-Single entry. QSL via CO6LC.

LZ123, BULGARIA (Special Event)

Members of the Balkan Contest Club (LZ1KZA) will operate with special event callsign LZ132GO between March 1-31st. Activity is to commemorate 132nd anniversary of the liberation of Bulgaria from Ottoman yoke by Russia. QSL via LZ1ZF. Special event station LZ132GO also counts for 10 points towards "St. Teodosii Tyrnovski Award":
http://www.balkanclub.org/awards.htm

ON30, BELGIUM (Special Event/Contest)

Egbert, ON4CAS, Secretary of the Belgian IARU Society UBA & Award Manager, informs that special event station ON30ON (Oscar November Thirty Oscar November) will be active during the months of March, April, September and October of 2010. Activity is to commemorate the 30th edition of the Belgian "ON Contest". The contest was first organized in 1980 to celebrate the 150th anniversary of the Kingdom of Belgium. Since then, the yearly event - lasting just four hours on a local Sunday morning - has become increasingly popular. QSLs for ON30ON go via the UBA bureau or direct to ON4CAS. A special certificate which can be achieved for free has been created in PDF format. Full details are available at:
http://users.telenet.be/egbert.hertsen/on30on.html

PACIFIC TOUR

Hugh, K6HFA, has announced that he will be in the South Pacific from early March until late April and plans to activate the following islands: Samoa (5W) - March 310th; IOTA OC-097 - Tonga (A3) - March 12thApril 2nd; IOTAs include OC-049, OC-064 and OC-123 - Wallis (FW)- April 612th; IOTA OC-054 - Tuvalu (T2)- April 1321st; IOTA OC-015 - Fiji (3D2) - April 2326th; IOTA OC-016 or OC-156.
Hugh plans to be on CW, SSB and possibly RTTY using 100 watts into a multi-band vertical antenna (for 80-15m). Look for him on the IOTA frequencies or possibly other frequencies. Hugh plans to call by areas (EU, NA, SA, ASIA... etc..) per propagation. Callsigns are TBA. QSL via K6HFA. Look for more details to be forthcoming.

TI8, COSTA RICA

Operators Keith/W4KTR, Eddie/K4UN, Bob/W4BW, Lex/W4XO, Carlos/TI2KAC, Juan Carlos/TI2JCY and TI2ZM will be active as TI8M from Costa de Pajaros, during the ARRL DX SSB Contest (March 6-7th) as a Multi-? entry. QSL via TI2KAC, direct preferred but bureau "OK".

V2, ANTIGUA & BARBUDA

Alan, N3AD, will be active as V26M between March 4-7th. Activity will include the ARRL DX SSB Contest (March 6-7th) as a Single-Op/High-Power entry. Alan informs OPDX that he will definitely be on Thursday afternoon and evening and on Friday before contest. His activity will be on the HF bands only - 160/80/40m in evening and 20/15/10m during daytime. QSL via his home callsign.

YI9, IRAQ

Operators Dooley/W4VDW and Louis/KI4VEU are now active from Baghdad as YI9VDW and YI9VEU, respectively. Operations are anticipated to begin in late February or early March. Activity will be on 160-10 meters including the 30/17/12m bands. Plans are to also activate an EchoLink node. QSL YI9VDW to his home callsign W4VDW and YI9VEU via LoTW. Echolink is YI9VDW-R (node # 496161), on daily between 1200-1230z (or when you see it active!). HF activity will take place for YI9VDW between March 1-7th. Suggested frequencies are: 20m: 14125-14300 kHz SSB between 1500-1600z; 40m: 7100-7200 kHz SSB between 1600-1700z.

2M, SCOTLAND (Satellite Op)

Paul, 2E1EUB, will once again be active as 2M1EUB from March 20th for 7 days. He will be active on all the satellites from northeast Scotland in the Cairngorms National Park. Also, look for him on 160 and 80 meters. Checkout (QRZ.com) under 2M1EUB for more info.

The Council of Europe Radio Amateur Club will be activ March 12th to 14th with the call TP60CE in SSB, CW, RTTY, PSK, SATELLITE to commemorate the 60th Anniversary of the Convention of Human Rights.
QSL via F5LGF Web site: http://ewwa.free.fr

DL60CHILD
DARC
1949-2009
60th ANNIVERSARY of the SOS CHILDREN'S VILLAGES

SM3CVM Presents :

SM3CVM DX-kalender

THE DXCALENDAR

ANTARCTICA TOUR; VP8/A, VP8/G, VP8/H, VP8/O by W2APF, traveling aboard the ship National Geographic Explorer. He is visiting the Antarctic region until Mar 5. He will sign W2APF/C6A/mm from onboard the ship and W2APF/KC4 from the Antarctic mainland. He plans shore excursions on the Falklands, South Orkneys, South Shetlands and South Georgia Islands and will use the call VP8DML from there. An exact timetable is not known in advance. Learn more at: http://www.expeditions.com/Ship_Detail92.asp?Ship=20
QSL cards for all callsigns should be sent via W2APF

PRINCE EDWARD & MARION IS; ZS8M AF-021. ZS1HF has announced he will be active from Marion Island "from the end of April once the 'SA Agulhas' has returned to Cape Town". He says he is taking up "the position of radio/electronics technician for a year". ZS8M is expected to be QRV in late April-early May. Pierre will be active in his spare time, and will operate SSB, possibly with some RTTY. QSL direct to ZS1X.

1/3 PITCAIRN I.; VP6AL
QSL OK via eQSL or direct: c/o P.D.C Hahei, RD1, Whitianga, New Zealand.

1/3 NEW ZEALAND; ZL/G6PAA
He will probably visit both the North Island (OC-036, WLOTA LH-0069) and South Island (OC-134, WLOTA LH-0342). Activity will be 80-10 meters using CW, SSB, RTTY and PSK. He will use 100 watts into a dipole. QSL via his home callsign, direct or by the Bureau.

2/3 BELIZE; V31RI
by DL6RAI. QSL via home call, direct or bureau.

2/3 - 11/3 ST. LUCIA; J68JA NA-108
by W5JON. Activity will be on 160-6 meters (including 60m) on SSB. He will use an ICOM IC-7000, KL-400 Amp (350 watts) into the following antennas: ZS6BKW design multiband dipole, and a 3 element yagi on 6m. Activity will also include the ARRL International DX Phone Contest (March 6-7th) as a Single-Op/All-Band entry. QSL via W5JON.

3/3 - 10/3 COCOS (KEELING) IS; VK9 OC-003
by NL8F. Activity will be on 80-10 meters, plus 6 meters, and an entry in the ARRL International DX Phone Contest (March 6-7th). He will be using a vertical antenna. He does not know what his callsign will be, but he is hoping for VK9COF (or possibly VK9C/NL8A). QSL via K8NA.

3/3 - 2/4 RODRIGUES I; 3B9WR AF-017
from Cotton Bay, Rodrigues Island by G3LZQ. Activity will be on all bands 160-10 meters, probably and mainly CW, but with a focus on the lower band (QRN permitting). Look for him to be in the RSGB's 73rd Commonwealth Contest (March 13-14th). QSL via his home callsign.

3/3 AFGHANISTAN; T6LC
from Gardez in Takia Province By W4JJ. Mainly 40 and 20 meter CW/SSB. Check 1430-1800z. QSL via K4MJN.

3/3 GRENADA; J37BO
by K4LTA, including a Multi-Single entry in the ARRL DX CW Contest as J38A along with NK4N. QSLs via K4LTA.

4/3 - 9/3 NICARAGUA;
YN2EA, YN2UO, YN2MG and YN2TKI by WF5W (YN2EA), K5UO (YN2UO), NM5G (YN2MG) and WB5TKI (YN2TKI). They plan to operate CW, SSB and RTTY on 160-10 metres, and to participate in the ARRL DX SSB Contest as YN2EA (Multi-Single). During non-contest periods, they will have two stations active on all modes and bands. QSL for all callsigns via W5PF and LoTW. For information, look at http://www.tdxs.net/yn2ea.html

5/3 - 12/3 SAINT MARTIN; FS/KT8X
This will be a holiday style operation with an emphasis on the 30/17/12 meter bands using CW, SSB and RTTY. However, he does plan to enter the ARRL DX SSB Contest as a Single-Op entry. QSL route will be the "Logbook of The World" (LoTW).

5/3 - 16/3 ST. LUCIA; J6/G3PJT NA-108
Main activity will be concentrated during the RSGB Commonwealth Contest, outside the contest he will operate holiday style mostly on 80 and 30 metres CW.

5/3 - 24/3 THE GAMBIA;
C56KR by OZ8KR. Activity will be holiday style with operations on 80-10 meters SSB, using 100 watts into wire antennas close to the Atlantic Ocean. QSL via OZ8KR.

5/3 ANTARCTICA TOUR;
VP8, VP8/G, VP8/H, VP8/O and KC4 W2APF will be traveling on board the ship "National Geographic Explorer" heading to the Antarctica region. He is expected to be operating under the following callsigns (specific dates were not provided): W2APF/C6A/MM - While on board the ship "National Geographic Explorer"; http://www.expeditions.com/Ship_Detail92.asp?Ship=20/
W2APF/KC4 - While in Antarctic territories VP8DML - While in the territory of the Falkland Islands (VP8) including South Shetlands Islands (VP8/H), South Orkney's Islands (VP8/O) and South Georgia Islands. QSL all activity via W2APF.

8/3 THAILAND; HSØZJF AS-101
by ON4AFU. During his stay he plans to activate the Malay Peninsula East Group (AS-101) during this time-frame as HS0ZJF/8. He will also make a trip to Cambodia between February 2-15th, 2010, and be active as XU7AFU. All his activities will be on all bands but CW only. QSL via his home callsign.

9/3 - 16/3 ST. LUCIA; J6/G3PJT NA-108
from the north-east corner of St. Lucia. Activity will be holiday style using a K2 w/100 watts and vertical antennas. He plans to also be in the RSGB's 73rd Commonwealth Contest (March 13-14th). Look for him outside of the contest especially on 80 and 30 meters. QSL via his home callsign.

9/3 - 18/3 ANTIGUA & BARBUDA;
V25WY and V25OP by W4OWY and W9OP. Activity will be on 160-6 meters using CW, SSB and RTTY. QSL via their home callsign or by the Bureau. Logs will also be uploaded as before to LoTW and eQSL.

9/3 - 22/3 MARSHALL IS; V7/N4XP
from Kwajalein. Look for him to be active on 160-10 meters using CW and SSB. He plans to be active on 60 meters this trip. QSL via his home callsign.

10/3 - 17/3 MONTSERRAT; VP2MCC NA-103
by G4FAL including an entry in the RSGB Commonwealth Contest (13- 14 March). The contest is for operators located within the Commonwealth or British Mandated Territories, so Nick says he "will be keen to work other stations" outside the BERU event. Activity is likely to be restricted to 80-10 metres CW, however if he can organise an aerial for 160m then he may be able to try some morning greyline contacts with Europe on CW on 15 or 16 March. QSL via G4FAL (direct or bureau) and LoTW.

10/3 - 23/3 JUAN FERNANDEZ IS; CEØZ/LA9SN
from Robinson Crusoe Island. He plans to operate mostly CW on 80- 10 metres. QSL via operator's instructions.

11/3 - 24/3 SAINT MARTIN; TO5SM NA-105
by F6BFH, to be active on the HF bands using CW and SSB. QSL via F6BFH, direct or by the Bureau.

12/3 - 23/3 NEW ZEALAND; ZL4TY and ZL4M OC-203
from Stewart Island by VK4DXA, ZL4PW and ZL4PA. They plan to have 2 stations using verticals for 160-30 meters and a Spiderbeam for 20-10 meters. They intend running barefoot unless they can obtain a solid-state amplifier. The following suggested frequencies (+/- 10 kHz, QRM, QRN & propagation permitting) have been announced:

Band	CW	SSB	RTTY
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160m	1820	1845	
80m	3525	3785	3580
40m	7025	7165	7038
30m	10115	10145	
20m	14025	14260	14085
17m	18080	18145	18105
15m	21025	21295	21085
12m	24895	24945	24920
10m	28025	28475	28085 kHz

QSL Info: They need a minimum of 2 USDs or 1 x IRC (please, 2010 issue) for a direct reply. Any donation sent with your QSL request will be greatly appreciated. Cards with insufficient funds or invalid IRCs will be sent via the bureau. All logs will be uploaded to LoTW following the DXpedition. QSL ZL4TY via VK4DXA; by the VK Bureau or direct to: Ray Crawford, 53 Moore Street, Kingaroy, QLD 4610, Australia. QSL ZL4M via ZL4PW; by the ZL Bureau or direct to: Paul Ormandy, 13 Swift St., Oamaru 9400, New Zealand. For more details and updates, visit their Web page at
http://www.zl4pw.orconhosting.net.nz/OC203/si_index.htm

16/3 - 23/3 MOROCCO;
5C2J, 5C2L, 5C2SG, 5C2P, 5C2W and 5C2Q
by IK7JWX (5C2J), I8LWL (5C2L), IZ7ATN (5C2SG), IK2PZC (5C2P), IK2DUW (5C2W) and IK2GPQ (5C2Q). Activity will be on all HF bands and 6 meters, using CW, SSB, PSK31 and RTTY. QSL via their home callsign.

16/3 - 23/3 JUAN FERNANDEZ IS.; CE0Z/LA9SN
Activity, possibly to the 26th, 2010, will be on 80-10 meters using mostly CW and 100 watts. QSL via his home callsign (may change). For updates, visit his Web page at
http://www.la9sn.com/

16/3 - 4/4 ANTIGUA & BARBUDA; V21ZG NA-100
from Antigua by DL7AFS and DJ7ZG. Activity will be on 80-6 meters with operations mainly on RTTY, PSK and SSB. They plan to look for JA stations and QRP stations. QSL via DL7AFS.

17/3 - 20/4 E. KIRIBATI; T32 IOTA NEW!
SM6CAS, G3KHZ, G4EDG and K9AJ plus five Kiribati Government officials, will be leaving Christmas Island on a long voyage to the Southern Line Islands. They plan to stop and operate from four IOTA new ones, namely Malden Island (OC-279), Starbuck Island (OC-280), Caroline Island (OC-281) and Vostok Island (OC- 282). They plan to be active on each island for four days. QSL direct via SM6CAS. The voyage will be almost 1,800 nautical miles. Further information is expected in due course, bookmark http://t32line.webnode.com/ for updates.

20/3 UGANDA; 5X1NH
by G3RWF. Activity will be on the HF bands. He prefers CW and likes the Digital modes (PSK and RTTY), but may work SSB whenever signals are good enough. QSL via his home callsign.

22/3 - 8/4 GREENLAND; OX/K0KU NA-018
from Thule by N0RC. Activity will be limited as work permits, but he plans to be on every other day and try to get on the air for contest weekends, but he cannot guarantee this. Look for the log to be uploaded to LoTW and EQSL. QSL direct to N0RC or by the Bureau.

26/3 - 31/3 CANADA; VY0V NA-231 NEW ONE!
from East Pen Island by VE3LYC. The operation is scheduled for 3 days between 26 and 31 March. He is looking for any possible donations towards the cost of this difficult project. Support can be sent to him by PayPal at tiberius.trifu@gmail.com. More information about his preparations and QSLing will be posted on the VY0V page at QRZ.com

26/3 SOUTH SHETLAND IS; XR9JA AN-010
New dates again due to a chenge in the Navy ship schedule. from Arturo Prat-Greenwich Island-South Shetland archipelago, WW Loc. GC07FQ) by XQ5CIE, CE6UFF, F6DXE and CE5COX. Activity will be on 160-6 meters using CW, SSB, PSK31 and the AO-51 Satellite. QSL via CE5JA. For more information, go to http://www.ce5ja.cl/ or www.qrz.com/

27/3 ST. MAARTEN, SABA, ST. EUSTATIUS; PJ5NA NA-145
from St. Eustatius by K1NA. When not taking part in contests, he will concentrate on 30, 12 and 17 metres, as well as on 160, 80 and 40 metres during his nights. QSL via K1NA, (100% QSL direct only with SASE). No bureau cards will be answered. DX stations MUST have SASE or SAE with 1 USD. No IRC! USA stations SASE only.

28/3 - 31/3 OGASAWARA; JD1BNN
by JF3MYU. He is expected to be there with three other operators who will be staying long (hopefully more details will be forthcoming). He will be focused on the WARC bands. QSL is "OK" via JARL Bureau, but write JD1BNN on your QSL (so it can be sorted easily). Also, you can receive his QSL direct if you send your QSL to his address: Kirk Itaya, 5-1-35, Daikaidori, KOBE, 652-0803 JAPAN. Please enclose SAE plus sufficient return postage. For NA, SA, EU and AF include one new IRC or 2 USDs. For Asia, one IRC or 1 USD.

28/2 - 14/3 ARUBA; P4ØA
by KK9A. Activity will be on 160-10 meters using CW and SSB. He will also be in the ARRL DX SSB Contest (March 6-7th) as a Single-Op/All-Band entry. QSL via WD9DZV. His QSL Manager will join him between March 7-14th. He will operate mostly CW using the callsign P4ØD.

28/2 - 14/3 ARUBA; P4/WA2NHA
Activity will be on 80-10 meters mainly CW. QSL via his home callsign.

31/3 GUINEA-BISSAU and SENEGAL; J5UAP and 6W2SC
by HA3AUI. He will spend his holidays at the border between Senegal and Guinea-Bissau. He will be QRV on 160m-10m, prefers digital modes (CW/SSB upon request) and uses a K3 transceiver with 500 watts amplifier, a 5 band Spiderbeam and verticals. QSLs direct via HA3AUI. More information can be found on his website at http://cqafrica.net/

31/3 DOMINICA; J79XBI NA-101
by SM0XBI. He will operate SSB on all bands. QSL via SM0XBI, direct or bureau (but LoTW preferred).

31/3 CANADA; VG, XK, XJ and VX
The following prefixes will be available for use to commemorate the 2010 Olympic Winter Games in British Columbia. Canadian stations with a VA prefix can use VG, VY can use XK, VO can use XJ, and VE can use VX. Known announced activities are: VX9NC - VE9NC will operate during that time using primarily digital modes on all HF bands. QSL via his home callsign. VG7G - VE7XS will be operating during this time. See below. VG7W - VE7OM will be operating as VG7W between now and January 31st.

31/3 CANADA; VG7G
The Vancouver Olympics Amateur Radio Group (VOARG) will activate three special calls to celebrate the Olympic Winter Games and Paralympics which will take place in Vancouver/British Columbia in Feb/March 2010. This is the third special call. A website will go online soon, all logs will be uploaded to the LoTW. QSL cards can be sent via bureau or direct to: VOARG, 9362-206A St, Langley/BC, V1M 2W6, Canada.

April ANNOBON I; 3CØC AF-039
by EA5BYP and EA5KM for 15 days. They will operate CW, SSB and RTTY on 160-10 metres, with an emphasis on the low bands and CW. QSL via EA7FTR, direct or bureau (QSLling policy on the website). All of the QSOs will be uploaded to LoTW one year after the expedition. Further information can be found at http://www.3c0c-annobon.com/

10/4 - 18/4 VIET NAM; 3W6C AS-185
from Con Co Island by HB9BXE and a large group of operators from Switzerland, Germany and Vietnam will be running four stations 24 hours a day. Further information is expected in due course. For the time being, please visit http://www.3w6c.qrv.ch/

14/4 - 19/4 TAIWAN; BW1/K8QKY
Activity will be on 160-6 meters using CW. QSL via his home callsign.

25/4 - 6/5 MARTINIQUE; FM/F5TGR
Activity will be limited to his spare time (holiday style) on 40-10 meters using CW and SSB. QSL via his home callsign, direct or by the Bureau.

CQ SIX - 50 MHZ DX NEWS BY OZ6OM

Cocos, VK9c. Tim, NL8F, will be heading to the Pacific again. He will start at Cocos (Keeling) Island between March 3-10th. Activity will be on 80-10 meters, plus 6 meters, and an entry in the ARRL Inter-national DX Phone Contest (March 6-7th). He will be using a vertical antenna. Currently, Tim does not know what his callsign will be (apparently it takes time for the WIA to process callsigns), but he is hoping for VK9COF (or possibly VK9C/NL8A). QSL via K8NA.

Denmark, OZ. Hello Guys, I (OZ6OM) will be QRV in the Nordic Activity Contest Thursday evening (March 11 th.) between 18 and 22 UT.
I intend to be QRV from JO55EJ at an alternate QTH running 100 w. into a 5 or 6 element Yagi.
In any case I intend to keep activity round 50.173 MHz (SSB/CW) and 50.230 MHz / 50.236 (JT6m).
(The reason I´m operating this way is, my attempt at setting up reasonable antennas at my QTH have so far ended in a law suit (Latest, case appealed to the domestic court after a no from the council review board). - so the antenna at my QTH is very modest at this time. The given permit says maximum hight at 1.8 m. agl.)
Hope to see You down the log ... vy 73 de Matt OZ6OM

St. Lucia, J6. Look for John, W5JON to be active as J68JA from Marigot Bay, island of St. Lucia, Grid FK93 on 2-11 March, 2010. QRV 160-6 meters (also 60m), including a Single-Op entry in the ARRL DX SSB Contest (6-7 March). His equipment will consisst of an ICOM IC-7000, KL-400 Amp (350 watts); Antennas: Alpha Delta DX-LB and DX-EE Dipoles, and 3 Element yagi on 6m. As in the past, XYL Cathy (W5HAM) will be very busy pool side. QSL via home call. (Andy N8OFS GOT6???)

Dodecanese, SV5. Willi, DJ7RJ will be active from Kos Island from 24 February until 17 March. He will operate CW and SSB on 160-6 metres, with a focus on the low bands. QSL via home call.

Antigua, V2. March 9 to March 18 by W4OWY (V25WY) and W9OP (V25OP). We plan to operate CW, SSB and RTTY on 160-6 meters. QSL via home calls, direct, bureau, also LOTW and eQSL. Tnx Bob W4OWY / V25WY (Maurice F5NQL)

Contest, Open / WW.
What to do on a tuesday evening ?
- Well the 4th. Tuesday in the month brings You "The 50 MHz Open"
- This month thats Tuesday - the 23 rd. 18 - 22 UT.
- You could help participants out with some QSO´s
- or participate Your self ...
You may find the rules for "The 50 MHz Open" here
and check out the standings here.
- so are You keen to give "The 50 MHz Open" a try ?
Hope to see You down the log - and Your log ...
Vy 73 de Bjørn/"Matt" OZ6OM 23 Mar. 2010

Morocco, CN. Alfredo, IK7JWX, and a team of operators will activate the city of Essaouira and Agadir, between March 16-23rd. Operators mentioned (with callsigns) to be active are: Alfredo/IK7JWX (5C2J), Leo/I8LWL (5C2L), Simon/IZ7ATN (5C2SG), Ruggero/IK2PZC (5C2P), AntoNello/IK2DUW (5C2W) and Michele/IK2GPQ (5C2Q). Activity will be on all HF bands and 6 meters, using CW, SSB, PSK31 and RTTY. QSL via their home callsign.

Maledives Islands, 8Q. Dan, HB9CRQ, did send MMMonVHF an first Pre-Announce for the upcoming EME Expedition to th Maledives Islands in march 2010. Operator will be of Pierre, HB9QQ and Dan, HB9CRQ and maybe other Members of the HB9Q Team. Mainwork will be 144 MHz but as well 6m and 23cm band will be joined. If there are more Operators maybe as well 70cm will be activated (if any OP will have interest to join the Team please pass an info to Dan, HB9CRQ). Flights and Bungalows are booked already. Soon MMMonVHF will spread out more detailed informations (http://www.mmmonvhf.de/latest.php?id=2896) tnx to Dan, HB9CRQ, Team of HB9Q direct to MMMonVHF

Maledives Islands, 8Q. More. Here is some preliminary information about the upcoming 8Q7QQ 6m EME DXpedition March 24-31, 2010. Pierre HB9QQ has been very busy optimizing the 6m EME station he will be taking next spring for his JT65A operation. He will be using a low noise external preamp, 500w Falcon amplifier and a 7 element yagi overlooking the ocean. Watch for details to be coming in the future, but plan now to be available for this great chance to contact a rare one! There are some great horizon-only windows for NA stations with Pierre while he has ground gain on the horizon at the same time! EME CNDX also are optimum during their period of operation ;-) GL and VY 73, Lance

Ogasawara, JD. Kirk, JF3MYU, will be active as JD1BNN between March 28-31st. He is part of the "JD1 Project 2010" and is expected to be there with four other operators who will be staying long. Kirk's activity will be focused on the 30/17/12m bands, SSB, some CW and 6 meters. QSL is "OK" via the JARL Bureau but write JD1BNN on your QSL (so it can be sorted easily). Also, you can receive his QSL direct if you send your QSL to his address in Kobe, Japan: Kirk Itaya, 5-1-35, Daikaidori, Kobe, 652-0803 Japan. Please enclose SAE plus sufficient return postage. For JA stations, SASE, please. For NA, SA, EU and AF include one new IRC or 2 USDs. For Asia, one IRC or 1 USD

Guadeloupe, FG. Serge FG/F6AUS, is working on 160m-6m from Guadeloupe until March 2010. He will sign TO4D in the WWDX CW Contest. QSL via homecall. *

South Shetland Isl., VP8H. Luis XQ5CIE, Carlos CE6UFF, Didier F6DXE and Dago CE5COX will be active from the Chilean naval base Arturo Prat on Greenwich Island (WW Loc. GC07FQ), South Shetland Islands, around 1-2 February until around 27-28 February as XR9JA.
They will be active on 160-6m SSB, CW, PSK31, and Satellite AO-51 QSL via CE5JA (Radio Club de Concepcion, P.O. Box 2545, Concepcion Chile). All QSLs received direct please include recent SASE or 2 USD $; QSL received via Bureau will be returning by the same way All QSL will be 100% guaranteed. Further information can be found at: www.ce5ja.cl/ also www.ce5ja.cl/xr9ja_ingles.php

South Shetland Isl., VP8H. [Update]. By the time you read this, a team of operators, from the Concepcion Radio Club (CE5JA), should be operating from Arturo Prat Chilean Navy Antarctic Base on Greenwich Island on the South Shetland archipelago (WW Loc. GC07FQ), between now and the end of March. Their callsign will be XR9JA. Activity will be on 160-6 meters using CW, SSB, PSK31 and the AO-51 Satellite. Suggested frequencies are: CW - 1834, 3504, 7004, 14024, 18074, 21024, 24894 and 28024 - SSB - (*), 3780, 7078, 14200, 18145, 21295, 24995 and 28475 kHz 6m - 50115 - Please note that ALL CW contact will be done with a PC (due to the absence of their CW operator). They request to: "Be patient with us! Will try to do our best and certainly we will have enough time." QSL via CE5JA. For more information, go to: http://www.ce5ja.cl

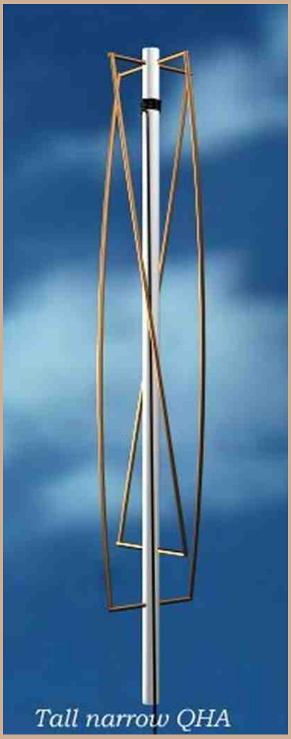
Antigua, V2. Operators Babs/DL7AFS and Lot/DJ7ZG will be going on another DXpedition, but this time to the Caribbean region. Look for them to be active as V21ZG from Antigua between March 16th and April 4th. Activity will be on 80-6 meters with operations mainly on RTTY, PSK and SSB. They plan to look for JA stations and QRP stations. QSL via DL7AFS.

Quadrifilar Helix Antennas

By dimoni

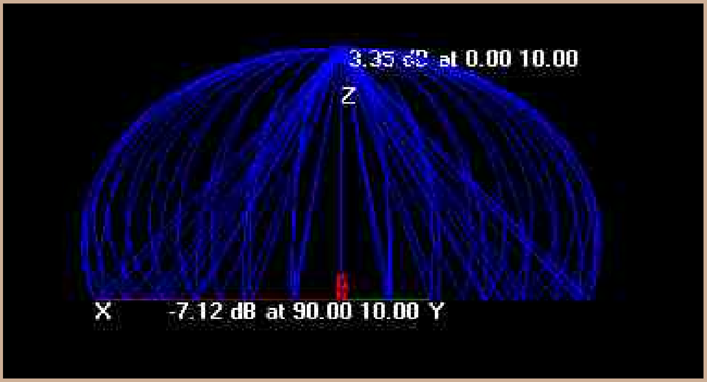
What is a Quadrifilar Helix Antenna (QHA) ?

Simply - It's the best antenna to use for APT satellite reception - the featured antenna is depicted on the left.

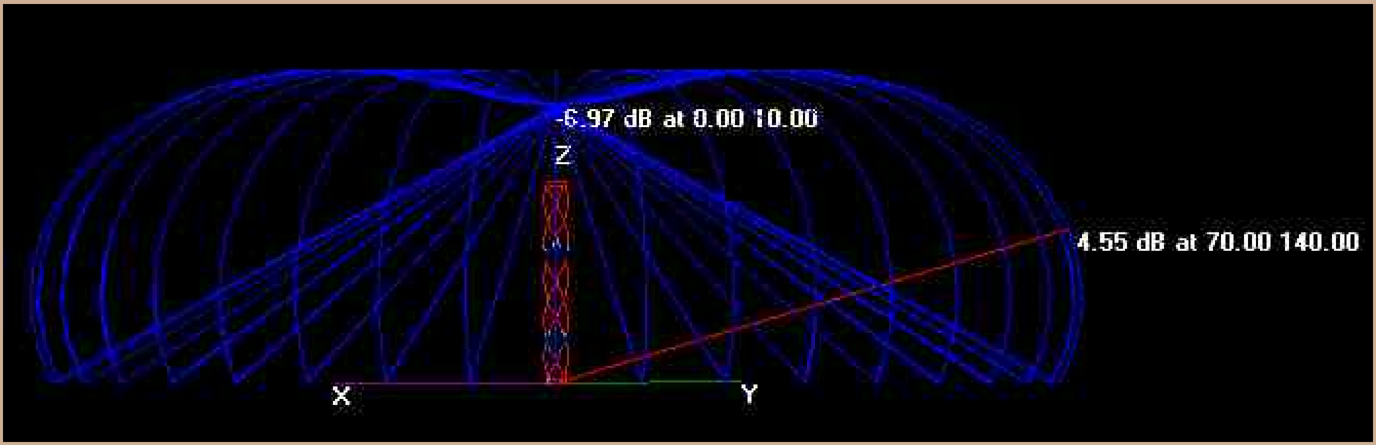

Tall narrow QHA

To paraphrase M. Walter Maxwell

"It comprises two bifilar helical loops oriented in mutual orthogonal relationship on a common axis. The terminals of each loop are fed in antiphase and the currents in the two loops are in phase quadrature. By selecting the appropriate configuration of the loops, a wide range of pattern shapes is available". The basic form of resonant QHA was developed by Dr. C. C. Kilgus of the Applied Physics Laboratory, John-Hopkins University, Silver Spring, Md. and published in December 1970 in "The Microwave Journal". Since then a lot of research has been done into the number of turns and length/diameter ratios. All of these affect the radiation pattern. The "traditional" fractional turn design produces a cardioid radiation pattern. It has been found that tall narrow QHA exhibit a "shaped-conical" pattern with high gains to the horizon and decreased gain overhead, which is much better suited to APT ground stations (See polar diagram examples). Most of the published data and designs on narrow antennas however have been more suited to UHF and do not translate well to 137.5Mhz. One of the best is a narrow 5 turn, but at the frequencies we are interested in would make an antenna 7 metres high!



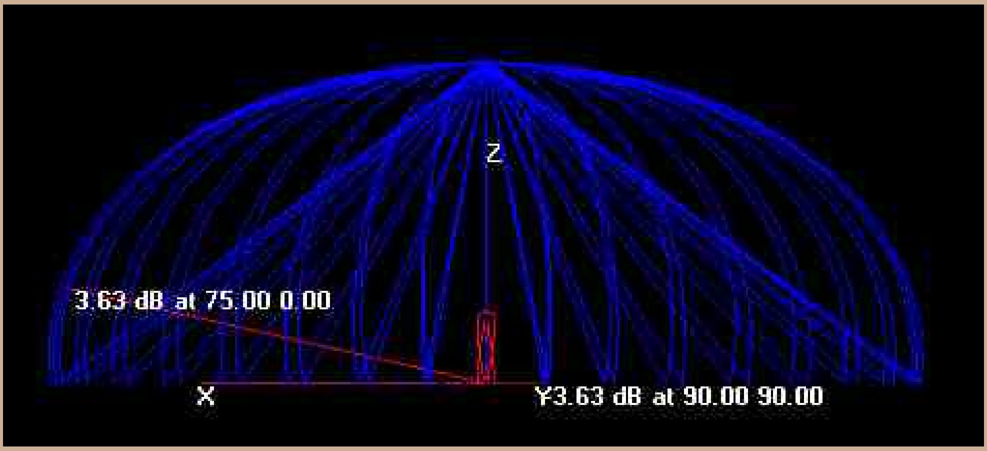
A traditional 1/2 turn design



A tall narrow multi-turn design

A Solution?

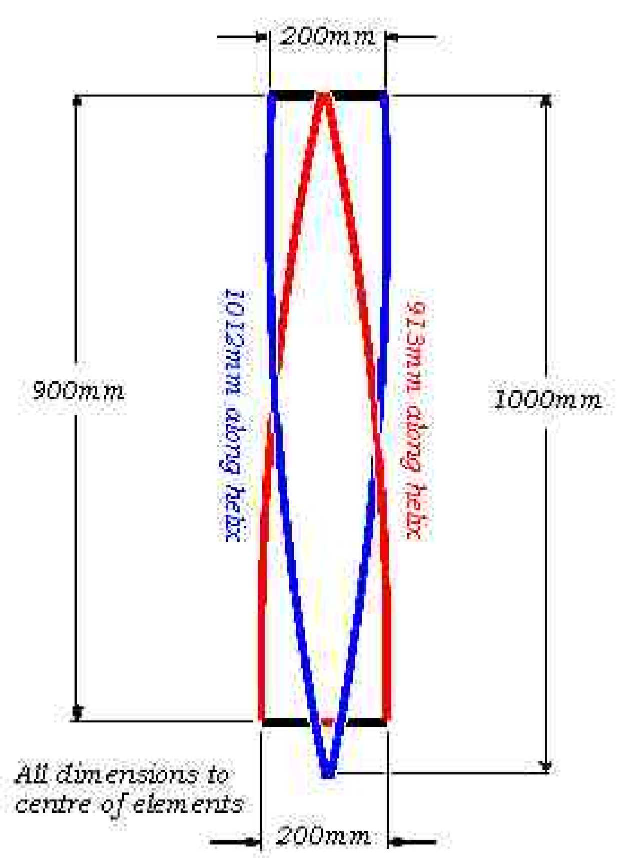
This design came about in the search for better gain at the horizon and yet still make construction easy. After a lot of discussion, experimenting and some frantic NEC modeling John Boyer came up with the dimensions for this one.



As you can see from the polar diagram above, this model exhibits a good compromise between the two previous examples. The +dB figures give the direction of highest gain, the - figures the direction of greatest loss.
John and myself have both built this one and find it has excellent reception properties. Its quite easy to get full horizon to horizon passes!
Try it - you'll not be disappointed

Construction notes and dimensions

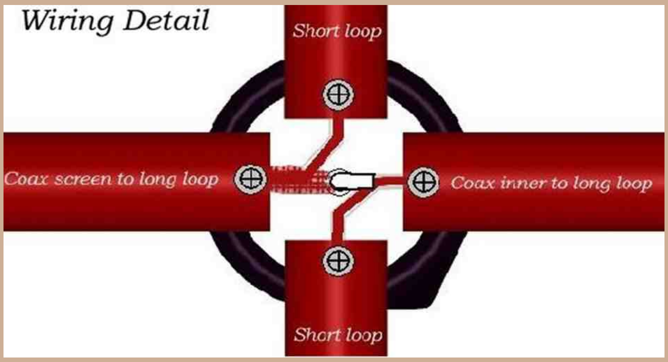
The finished model should look like the one labeled "Tall narrow QHA" at the top of this page.



Element Dimensions
Mast - 1.5m of 32mm (1 1/4") PVC waste pipe.
Elements - 8mm (3/8") mini-bore soft copper tube - 8 copper elbows for the corners.
2 - 190mm lengths - bottom horizontal tubes
2 - 903mm lengths - short helix elements
2 - 1002mm lengths - long helix elements
4 - 90mm lengths - top horizontal elements
Note - these are cutting dimensions and assume that 90 degree elbows NOT bends are used - The dimensions on the drawing are from centre to centre of the respective elements - you may have to adjust your cutting sizes accordingly.

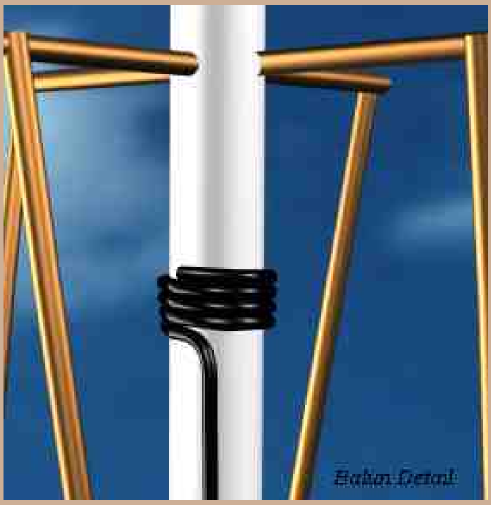
4 self-tapping screws for feed.
Suitable length of RG58 or UR43 for balun and feed.
32mm cap to plug top end of mast.

Drill 4 - 8mm holes at 90 degrees to each other 25mm from the end of the mast - make sure the holes are Square and in the same plane!



Mark and drill the bottom holes remembering they are in opposing pairs spaced 100mm apart - you're advised to check the measurements at least twice before drilling!!!

Drill a 7mm hole near the top of the mast for the cable entry.



Drill pilot holes in the 4 top elements for self-tapping screws and assemble top tubes, push coax through hole and make top connections with screws. Wrap the coax 4 times around the mast and tape/glue in position (balun).
Push the elbows onto the top tubes and measure from the centre of each leg - it should be 200mm, NB -you may have to cut more off if you used swept bends rather than tight 90 degree elbows.
Assemble bottom tubes, make sure they are central and square to top tubes.
Bend helixes to suit - tip - try and find a former of some type; a suitable log or large pipe makes the bends nice and neat.

When your happy with the shape solder up the elbows. It should appear circular when viewed from the end.

Check the connections and cap the top end of the pipe.
The copper tubes can be fixed to the mast using glue/silicon sealer and/or tape - make sure you seal the coax entry hole.
Push a suitable piece of wood up the bottom end to avoid crushing the PVC tube too much when clamping to the mast.
I hope you'll give it a try - it really is worth the effort.

2Mtr version

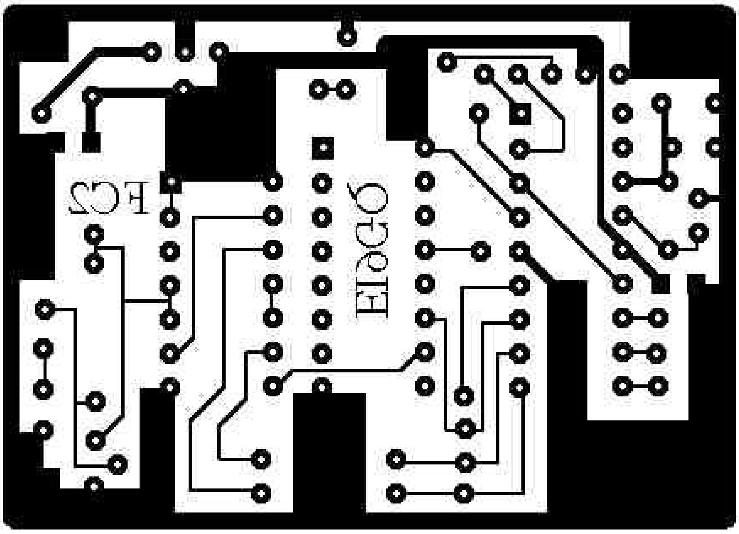
Here are the dimensions for a 144-146Mhz version
Diameter both loops 188mm
Long loop height 950mm, helix length 961mm
Short loop height 850mm, helix length 863mm
It doesn't scale very well for 435Mhz - but I'm working on it!

Best 73 ! Dimoni

MAKE YOUR OWN PRINTED CIRCUITS
By EI9GQ

To make smart looking PCB's, all you need is: A computer, a laser printer, copper clad board, etchant, a clothes iron and some Epson glossy photo paper. You can buy special film for making PCB's, but I have found that the Epson paper gives better results. I use Epson photo quality glossy paper for inkjet printers.

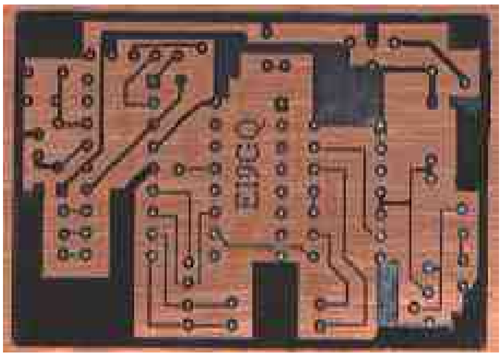
Draw the PCB track layout, using a CAD program or a standard drawing program. Remember to reverse the image before printing. Most drawing programs have a 'flip horizontal' function. Print the image on normal A4 paper to make sure that it is the correct size. Check the layout carefully.



PCB LAYOUT

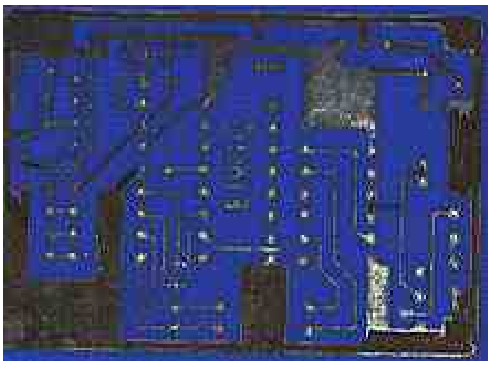
Use a laser printer to print the image on the glossy side of the photo paper. Clean the copper clad board with steel wool or very fine wet sandpaper. Dry the board thoroughly. Make sure that the board is clean and free from fingerprints. Place the photo paper face down on the copper clad board. Use masking tape to hold the paper in position. Don't use vinyl tape. Place the board on a flat surface. You will be using a very hot iron, so don't use the dining room table. I use the back of an old telephone directory. Use a hot clothes iron to transfer the track pattern from the paper to the copper board. Don't be afraid to use lots of heat and pressure. Allow the board to cool. Don't be tempted to lift the paper. Put the board in a container full of warm soapy water. After about twenty minutes the paper will begin to dissolve and disintegrate. Carefully remove the paper from the copper board. Rinse under a cold tap to remove paper residue. You may need to touch up any broken tracks with an etch resist pen. I use a fine Staedtler laundry marker.

BEFORE ETCHING

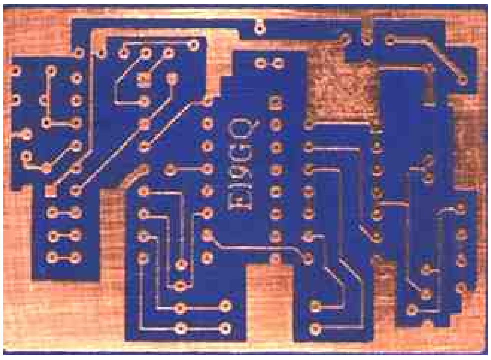


Etch the board in a Ferric Chloride etching solution. You can buy the etchant in liquid form or as anhydrous Ferric Chloride powder. Follow the instructions. NEVER add water to dry Ferric Chloride. Don't get any on your clothes.

AFTER ETCHING

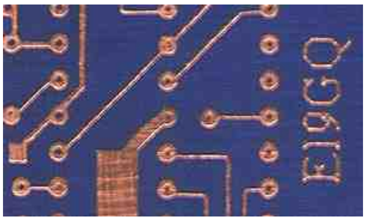


PCB



After etching, rinse the board under a cold tap. Remove the etch resist with some steel wool. Dry the board. Use a 0.8 or 1.0 mm drill to make the holes for component leads.

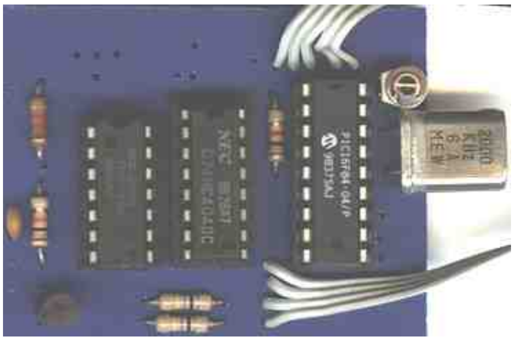
CLOSE UP



The close up picture shows that the tracks are not as clear and well defined as they would be if the board was produced by photographic methods.

The procedure for making double sided boards is a bit tedious. Coat one side of the board with aerosol paint or clear lacquer. Etch the other side of the board as for a single sided board. Remove the paint or lacquer. Drill the component lead holes. Paint the etched side of the board. Then etch the unetched side of the board as for a single sided board. It is difficult to line up the two sides correctly. Use the component holes as a guide.

END RESULT



I have used this method to make PCB's for both DIL and surface mount IC's with 0.05 Inch pin spacing.

My laser printer is an old Apple LaserWriter II NTX (300dpi.) If you don't have access to a laser printer, use an inkjet printer to print the layout on ordinary paper, then copy the image to the Epson paper, using a photo copier. I haven't tried this method but it should work.

I have also had good results with an OKI LED printer. I have found that Xerox paper works just as well as the Epson paper. I buy it in packs of 20 sheets. COLOR INKJET PHOTO PAPER HIGH GLOSS

73 de EI9GQ

The History of Torre Bert
From Astrosurf

Introduction (I)

From 1957 many youngs were watching the first space missions at TV, and read the news showing the equipment used by the first ground stations to receive signals transmitted by artificial satellites. Soon they see the first manned Russian and American spacecrafts orbiting around the Earth. For some of these amateurs it was the opportunity to experiment the first equipments directed to space communication.

On April 1965 the Reader's Digest published the exciting adventure of two amateurs listening to space illustrated with the sketch displayed at right, article in which author J.D. Ratcliff explained how two young Turino, the Judica-Judica-Cordiglia brothers had set up a tracking satellite station of their own, Torre Bert, to listen to the first space communications between the Russian or American spacecrafts and the ground stations.

At that time of its release this story looks to me like a dream : with some equipment amateurs seemed able to listen to space communications, and even get telemetry sent by spacecrafts. We could work at home like did engineers at Houston ! This reality fascinated me !

It is thus almost at that time that this new fact (added to other stories) convinced me to become an amateur radio. In this way, if I did become an astronaut, I had at least the opportunity to listen to their communications.

But time running, two decades later my dream of kid became to broken in parts as other echoes reached my antennas. The Judica-Cordiglia brothers hadn't realized all they claimed. Was is possible ? Now helped with my scientific and amateur radio backgrounds I had the capabilitiy to verify most of their alleged claims.

This is this investigation that I would like to present you below. Not the complete Judica-Cordiglia brothers story that you will find in its complete version on Lost Cosmonauts, a fine website maintained by Giovanni and Mario Abrate. I would like only to highlight some facts and excercise your critical sense one more time. Report and criticals.

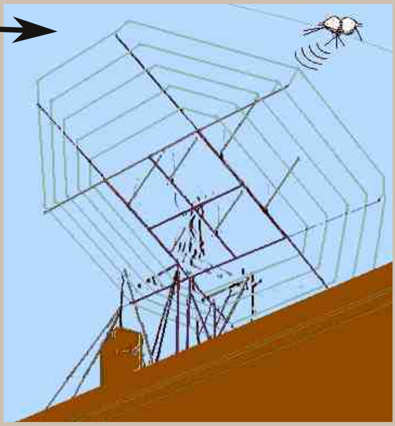
Torre Bert and the Zeus network

In the Northern Italy, between 1957 and 1965 two young Turino brothers fan of communication but not amateur radio, Achille and Giovanni "Gian" Battista Judica-Cordiglia set up the first amateur tracking station, "Torre Bert". Their goal was to pick up the first telemetry signals and other downlinks data from the first satellites launched by Russia then by NASA. They were eventually able to record the conversations between the cosmonauts and astronauts and their respective ground stations. They set up the first amateur world network of space tracking stations and erected not less than 21 antennas, including phased-array dipoles, and used the first mobile tracking unit installed in a break (station wagon). They were the pioneers in all fields, soon caught up by radio amateurs ! How all this adventure began ?

Sketches made by the author from pictures showing the Torre Bert station. At left Gian Battista (sitting at desk) and his brother Achille Judica-Cordiglia. At center the tracking room. At the best time the team would have gathered up to 20 operators. At right the audio processing system desk.

While Jodrell Bank invested 1.6 million sterling pounds ($2.3 millions of 2000) to track satellites, that USAF spent 15 millions dollars at Tyngsboro, Mass., to build his Haystack radar (used later by NASA in his Orbital Debris Radar Calibration System ODERACS), and that a Turino industrial built a parabolic dish at 2 millions lira ($900), our two young amateurs had only 18,000 lira or a little more than $8 to spend. So the only solution was to build themselves their equipment.

With an extraordinary ingenuity they achieved their objective in a couple of years and were able to track any satellite passing nearby since the first Sputnik. In 1965 they created the Zeus network that counted 17 stations spread over the world and hooked by shortwaves. Their installation was so sophisticated that there were able to forecast 12 hours ahead that Lunik IV launched by Russian to the Moon should miss its target by 8000 km (5000 miles). In fact it flew 8497 km off the Moon.



Sketch showing a six-dipole array used at Torre bert.

To pick up these messages Torre Bert used up to 21 antennas. The one displayed at left is a six-dipole array that could be tuned on 108, 137, 145.8 or 405 MHz. They used also a single helical antenna placed at center of the large ground plane. It was controlled manually using a wheel installed in the tracking room. This antenna system offered a 7.8 dB gain over a single Yagi. This gain was so low that even the Gian Battista Judica-Cordiglia considered this system as unsuited or almost to pick up space communications as it was often at the limit of the background noise. But we will see in a moment that these frequencies hide other mysteries.During its short existence, it seems that Torre Bert recorded some sensational messages from space. But not everybody share this opinion, and personally, even having not had the opportunity to listen all tapes, some technical objections can already be presented. Here are some examples of recordings made by Torre Bert, beginning with the most famous of them, a recording of John Glenn made in 1964.

If by some ways the Torre Bert installation displayed some attracting but useless devices (display and vector maps) or had to manually rotate their antenna, the Judica-Cordiglia brothers had the right telemetry receivers, the suited antennas and, last but not least, the know-how to build a functionning receive space communication station. Here is an example of their skills.

In 1964, they won a TV-game dealing with the space conquest and were rewarded in receiving a gift of 1,8 millions lira (about $830 of 2000). Our young Turino brothers took advantage of this opportunity to visit the USA. It was written that they had the support of the U.S. Embassy in Roma, thanks to the help of their Scientific Attaché Mr Walter Ramberg who organized for them a meetings with some NASA specialists of space communications, including M.Haussman, in presence of an italianse/american translator named Alberto Rossoto. According to some writers and a film recently released on european TV, this is at this occasion that the two brothers visited NASA space centers of Huntsville, Cape Canaveral, Houston and Beltsville where they did the admiration of American engineers by the extent of their know-how. They played tapes they had made of John Glenn's conversations with Capcom recorded during the Friendship 7 mission of 1962.

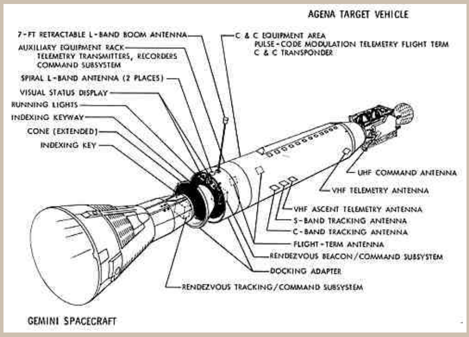
According to various sources, Haussman and other NASA officials were astounded. Harry J. Goett, director of the Goddard Space Flight Center said to their translator that "They have done a remarkable job" but was afraid that amateurs were able to discover secret working frequencies. NASA never announces the audio frequencies while the spaceflight is not ended, for fear of causing jam on frequencies or other problems. They thus asked to the youngs how they determined this special frequency in the L-band. "Easy", the Judica-Cordiglias said, "we saw a pre-flight picture of the Glenn capsule and we figured the frequency from the size of the capsule's antenna !...".

Note for the anecdote, that convinced that NASA was subjugated by the know-how of our two brothers, these latter requested to NASA the permission to get two of their secret space frequencies in exchange of what our two brothers would give them two space frequencies used by Russia. Of course, NASA engineers accepted the deal and give them what they asked, at the greatest pleasure of our two brothers.

Nowadays, when we want to know at what frequencies work a satellite or a spacecraft, our first reflex is also to check the radios in the command module or to deduce from the external antenna sizes what could be its working frequency. With some habit we can easily answer to such a question, maybe not to the right frequency but close to some MHz.

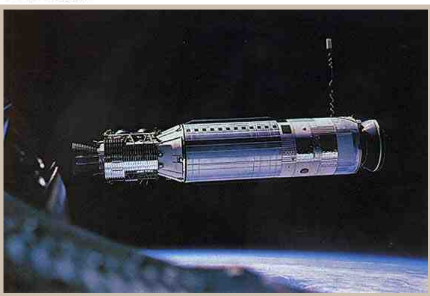
At left space docking between the unmanned spacecraft Agena and Gemini 8 flied by Neil A. Armstrong and David I. Scott on Mars 16, 1966, some years before Armstrong is enlisted in the Apollo XI crew. From the drawing at right we learn that the can-like antenna that we see above the craft was a 7 ft long and retractable L-band (1-2 GHz) antenna. With such information some bright amateurs built the first receiving system to capture telemetry and other signals from the first manned space missions. Documents NIX and NASA History.

Beside of their extensive work, the Judica-Cordiglia brothers claim that they recorded alleged communications of cosmonauts in distress, including a woman, or conversation that do not meet the declarations of authorities. Here are some examples that I voluntarily shortened because the problem is not only in the content of these messages but most of all in their existence itself as you will quickly understand.



Claims of recordings of cosmonauts in distress

On November 28, 1960 Torre Bert should have picked up this enigmatic message in Morse code: "SOS TO THE WHOLE WORLD". The message was transmitted from a moving spacecraft, that was, according to the two brothers, confirmed by its Doppler effect, and was sent three times. According to Judica-Cordiglia brothers, amateurs in Germany and Texas received the same message.



Three days later, Russian recognized that one of their launch failed, but they didn't make allusion to a human passenger. A similar recording was picked up on May 17, 1961 (according other sources the period is somewhere between 16-23 May) coming from a crew of several cosmonauts requesting assistance, among them a so-called female "cosmonaut" voice telling that there was flames and a fire around her. For Judica-Cordiglia brothers nobody will never know what happened as long as Russian will not decide to speak. A third message was recorded on February 2, 1961. Presented to the famous hearth surgeon Dr Dogliotti, he affirmed that we heard an "heavy breathing" and the "fast beating of a dying heart". The Judica-Cordiglia brothers were convinced that Russian didn't shrink from sacrifying human lifes to affirm their supremacy in space. At last, but there are other recordings, on June 14, 1963 our two brothers recorded a female voice alleged to be the one of cosmonaut Valentina Tereshkova. They claim that it was recorded two days before the official launch as declared by the Soviet authorities. The Judica-Cordiglia brothers have gathered many other telemetry and audio recordings, some showing a political importance. On of them was a weak audio signal coming from ground stations, and identified a few times later as classic russian music used by Russian as a coded signal to announce the near launch of a new space mission. And indeed, two days after have recorded this melody, USSR announced the launch of a new space mission. Such information interested much NASA, as well as a russian spy that followed closely the work of our two brothers (but quite rapidly our two brothers were also protected by the italian intelligence services).

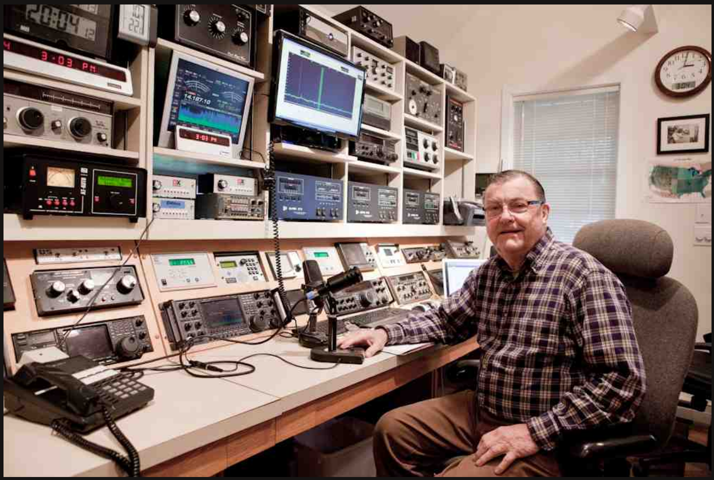
Some of these recordings display however a so poor audio quality that well smart the one that could hear an intelligible voice in some of them. The telemetry recordings on the other side are of course much clearer. At first reading, these few examples seem to confirm that our two brothers were witnesses of a conspiration. If they are persuaded of this, I am not at all like many other people having investigated this affair. In the end, what can we conclude about these documents, and the alleged claims of the Judica-Cordiglia brothers ? This will be the subject of the next chapter.

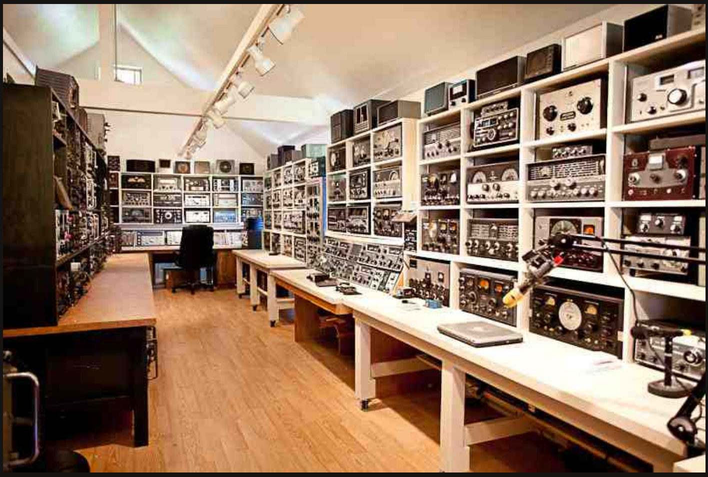
To be continued...

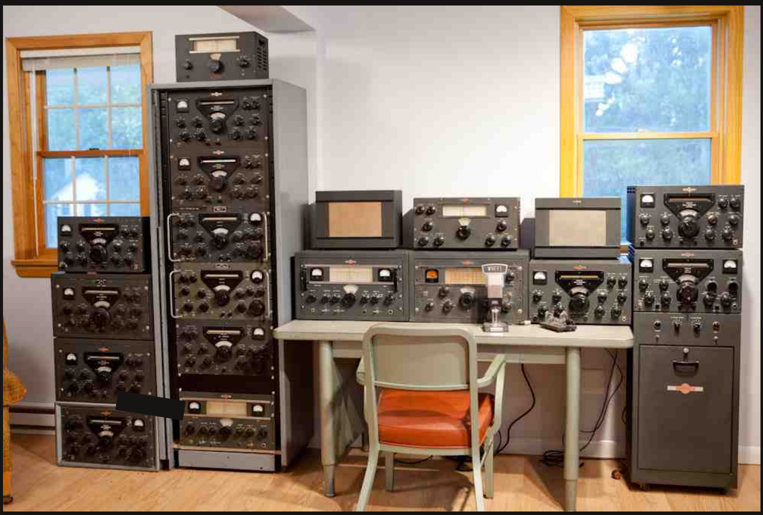
COMIC'S HAM

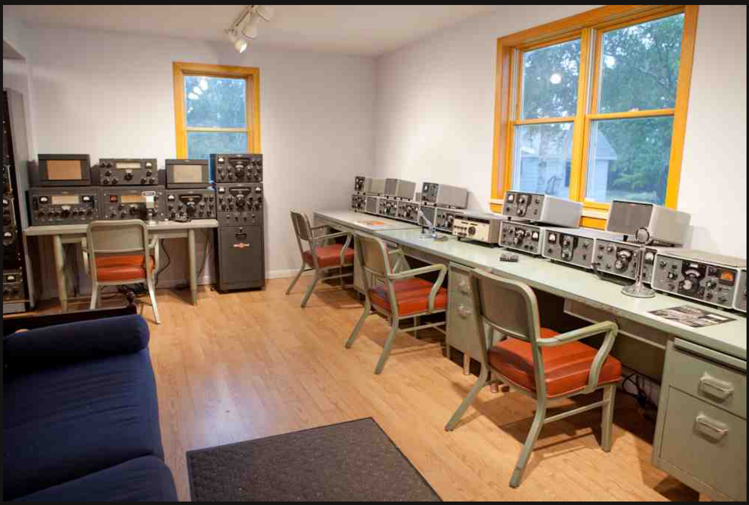
Have some fun...

The "little" Shack of... W9EVT









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LIGHTHOUSE WEEK-END

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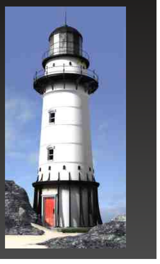
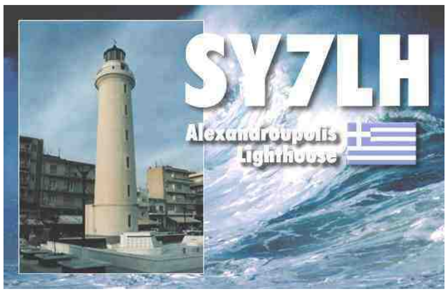
INTERNATIONAL LIGHTHOUSE/LIGHTSHIP "WEEK-END"

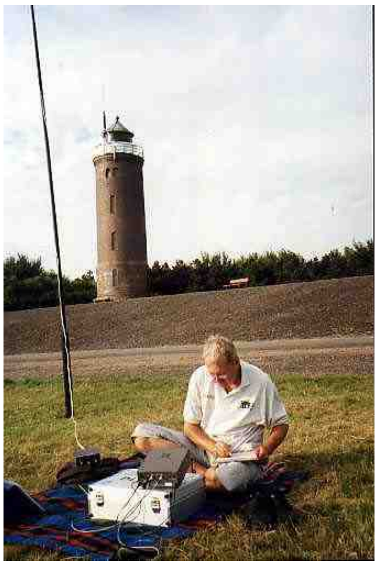


By Kevin Mulcahy VK2CE

It all started in 1994 during a wet wintry evening when two members of the AYR Amateur Radio Group in Scotland, John GM4OOU and the late Mike GM4SUC, after a club meeting were talking about creating an event in the summer when club members could get out on a sunny weekend and play radio. Various themes were considered; ports, airports, historic Scotland sites, the Firths of Scotland, castles etc. but it was finally decided that lighthouses of Scotland would be ideal.

Following research it was discovered that the lighthouses of Scotland were controlled by the Northern Lighthouse Board in Edinburgh who were not only responsible for the lighthouses of Scotland, but also around the Isle of Man. Approval was sought and obtained from the Northern Lighthouse Board to establish amateur radio stations adjacent to their property. In February 1995 an invitation was sent to all Scottish clubs and the Isle of Man club to join in the fun of a weekend, to be called the Northern Lighthouse Activity Weekend, by establishing an amateur radio station at a lighthouse during the third weekend in August. This first year's event saw 11 stations established at lighthouses, operating primarily on the HF bands, with each station making approximately 750 QSOs over the weekend.





The following year the Scottish clubs were involved in a weekend activity with the theme of Scottish Firths (river estuaries), so two years elapsed before the next Northern Lighthouse Activity Weekend. During this period Anne-Grete OZ3AE enquired through a letter to Practical Wireless if there was any lighthouse activity on amateur radio. Following discussions with her it was decided that Danish stations could join in the fun of the weekend. Quickly Germany, South Africa and France asked to join, so the name of weekend was changed to The International Lighthouse/Lightship Weekend . It was at this time that John, GM4OOU, due to pressure of work, had to cease his connections with the event.

The weekend became an annual event taking place over the third full weekend in August and has slowly grown in popularity and in 1999 there were 204 lighthouse/lightship stations in 36 countries until 2008 when 406 stations in 50 countries took part.

Full statistics and guidelines for participation can be found at on the ILLW web site at :
http://illw.net

The main reason the event has become so popular is because it is NOT a contest. It is a relaxed fun weekend without the pressure of a contest. The guidelines are simple and the onus is on the operators to act within the spirit of the weekend which is simply to expose amateur radio and the plight of lighthouses to the public. This is why it is important for the ham station to be as close to the lighthouse/lightship as possible and with the controlling body's approval.

A few years ago the International Association of Lighthouse Keepers decided to have an annual open day for lighthouses all around the world to encourage visitors to visit at their lighthouses. They decided that no better day could be decided upon other than the Sunday of the ILLW. This move has been highly successful as the media have become involved in quite a few of the countries involved in the event.

This year's event takes place on 15-16 August 2009 so if you haven't done so already, find a lighthouse nearby and get a group together or do it solo and fire up a lighthouse station. In most cases if you don't intend operating from within the lighthouse itself or one of its cottages, you really don't need to get any approval. Most first time entrants are so enthused with the event that they return year after year. A report from the Burlington ARC, Canada summed their first participation in these few words:

"The greatest delight of the day was the active participation of the visiting children who showed a remarkable interest in the whole idea of amateur radio, especially the use of Morse Code.

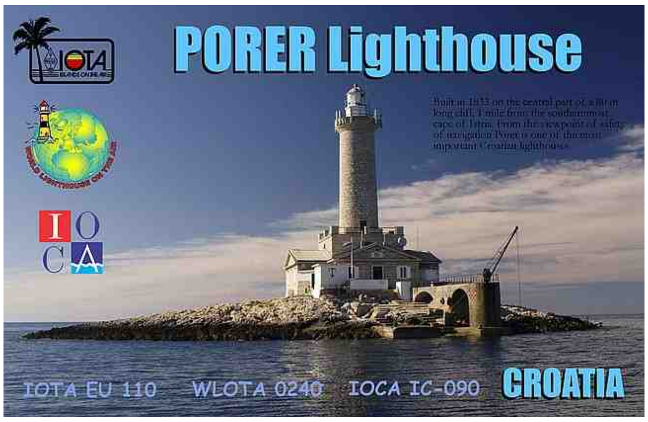
It was an honour and a delight to participate in this adventure and we look forward with increased enthusiasm to next year's participation."

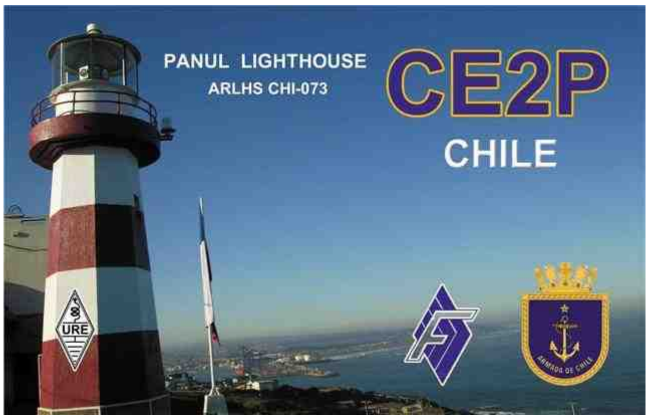
As you can see from the website, Mike Dalrymple passed away in December 2005. He was the Treasurer of the Ayr Amateur Radio Group and one of their members has taken on Mike's roll as the PR man and main co-ordinator. The event is now dedicated to Mike's memory as is the official web site:

http://illw.net

Where you will find the event guidelines, an on line entry form and lists of participating lighthouse since 1999.

Kevin vk2ce
vk2ce@illw.net





HI-FI or Enhanced Single Sideband (ESSB) for Amateur Radio

By WB8EVI

For years I was one of those operators who believed you had to have a Heil DX microphone cartridge to have the best sound for chasing those far away stations. I owned a Heil Proset with the DX microphone cartridge in it, and I worked my fair share of DX stations with it--it worked. Then about a year ago, I started listening to 14178, 3851, etc, to some of those HI-FI audio guys. Gee some of them sure sounded good to me, and they did not take up too much bandwidth either. They also were not fatiguing to listen to for long periods of time, unlike some operators who have rather limited transmitted audio frequency response. So after careful consideration of my available spare funds, meaning I had some mad money, I decided to take the plunge and give ESSB a try. Besides, I was bored and needed a new radio project to work on. My goal was to sound the best that I could, while still staying within a reasonable bandwidth limitation, and a reasonable budget.

I started listening to those people that sounded good to me and took notes on what equipment each of them used. I spent weeks doing this and I believe it was time well spent. Then I checked out every website I could find, looking up the equipment they were using. I decided to start purchasing one piece at a time, paying cash as I went, to make it relatively painless. Buying one piece at a time also allowed me time to become familiar with how each piece worked. I am the kind of guy who likes to see something before buying it, if possible. I also like to support local dealers, as long as their price is within reason. My local Guitar Center is the place to go! They have lots of equipment to see, several locations within driving distance, a great website to do research on, and will compete with anyone’s price. I also found the sales people very friendly and helpful with suggestions once I explained what I was trying to accomplish.

I have always wanted to try a condenser type of microphone. Most professional or studio microphones are this type. They have a wide and flat frequency response. The downside is that they require what is known as a phantom power supply. Usually this is 48 volts, and is supplied by the microphone preamplifier. With $400 burning a hole in my pocket, I went to my local Guitar Center and came home with an AKG Perception 200 condenser microphone, a Behringer T1953 preamplifier, a small microphone desk stand with boom, and a high quality Monster audio cable with XLR connectors on each end. Oh yes, most professional microphones use XLR connectors, and have balanced output. Note that there is no PTT (push to talk) switch on these microphones, since they are not designed for Amateur Radio use. I chose to use a foot operated switch to key my transmitter with. I have a Heil footswitch, and think it is perfect.

The next step was to interface my new equipment to my Yaesu FT-1000MP transceiver. Professional audio equipment levels are way too high to directly connect with “consumer” audio equipment. So an interface is needed to drop the level down to where we can use it. W2IHY sells what he calls an I-box. A lot of people use those, and they are excellent units for converting from professional audio level down to consumer audio level. I decided I would rather try building an interface circuit myself. I have built three different interfaces so far, and I have learned a lot from each of them. I scrapped an old Telebit Worldblazer desktop modem and salvaged a very nice 600 ohm transformer out of it. Do not try to use the inexpensive transformer sold at your neighborhood electronics store. They do not have very good frequency response, at least not the one that I tried. If you try the modem route, find an external modem, not the internal modems that are on a card. From what I have experienced, the physically larger transformers tend to sound better. I have an old Heathkit phone patch, and someday I may try the transformer in it; maybe even try making an interface out of the whole unit since it does have a nice meter. I added a couple of RF chokes, resistors, capacitors, a level pot, a switch for “ground lift” and a couple of connectors with my modem transformer. All this went into a plastic box—do not use a metal box! You do not need the extra RF shielding, and you probably will not want the grounds connected together as this creates unwanted hum. I wired in a switch to connect the grounds and I can certainly hear the difference with the switch closed, and the grounds connected. If you do not want to build your own interface, the W2IHY box is an excellent choice. You can also get a professional DI box, such as the Behringer Ultra-DI 100, at your local Guitar Center. This Behringer unit requires a 9 volt battery or 48 volt power, since it has a buffer amplifier in it. I tried using an Ultra-DI 100. It worked fine, sounded great, was very quiet, and was about $35 at the time. My homemade box has both ¼ inch TRS (tip, ring, sleeve, with 3 conductors like a stereo headphone jack) and phono jacks installed on it for both input and output. I like having a little extra flexibility for interfacing with my equipment. For the balanced audio portion of the audio chain, you need to use either XLR or ¼ inch TRS jacks. The interface box to transceiver circuit is just two conductor unbalanced, so I used phono jacks for that.

Ready for my first test; I wired the AKG microphone into the Behringer preamplifier with an XLR cable, and the output of the preamplifier to the input of my interface box with a TRS cable. Next I ran the output of my interface box into the phone patch input jack on the rear of the Yaesu transceiver, using a phono to phono cable. Then I unplugged my Yaesu microphone from the front of the transceiver. I now use a Heil footswitch to key the transmitter with, plugged into the rear of the transceiver. Not only did this setup work, but it even sounded reasonably good to me, while monitoring my transmitted signal with headphones. Wow, this condenser microphone is much more sensitive than the Yaesu desk microphone I was using! I can hear my dog walking across the floor upstairs. I also can hear the washer and dryer running in the room above me. Microphone placement, and level controls suddenly became very important.

The next piece I purchased was a Behringer Feedback Destroyer Pro DSP1124P for about $100. This unit has two channels, like the preamplifier does. It also has both XLR and TRS input and output jacks, again like the preamplifier. Each of the two main channels has 12 individual channels that can be used as either a feedback destroyer (like a heterodyne remover in a receiver) or as an audio equalizer. I may try using one of the main channels on receive audio to remove heterodynes someday, but for now I use all 24 channels for transmit audio equalization. I adjusted 12 channels for what sounded good in my monitor headphones plugged into the transceiver, and the other 12 channels to cutoff all audio above 4 KHz. Remember, I do not want to be so wide that I cause trouble. I just want to sound good.

Time to talk about balanced audio interconnect cables. Either XLR or ¼ inch TRS connectors will work fine. I tried using an inexpensive patch bay mounted in my audio rack, with the input and output of every piece in the audio chain going to a ¼ inch TRS jack on the rear of the patch bay. This allowed me to monitor with headphones between each piece, to inject tone to set levels, or to patch around a piece of equipment all from the front of the patch bay. So I only used an XLR interconnect cable between the microphone and the preamplifier. This I did not have wired through the patch bay. Since the rack of audio gear is not far away from my HF linear amplifier, I thought it would be wise to get good quality, well shielded audio cables for everything. Monster makes very impressive cables, and at about $25 each, this really adds up. They are very high quality, and guaranteed for life. I have a few of them. Live Wire cables look almost as good to me, and are a little more reasonably priced. I have a few of those also. Then I discovered that Radio Shack has a very nice cable for $14 with ¼ inch TRS connectors on each end. These are also an interesting purple color. This is a good thing. When you have a large pile of cables behind a rack of equipment, it is nice to have a few cables that are a different color, so you can tell them apart easier. I soon realized that I should have purchased a better patch bay. The plugs kept falling out of the jacks on the rear of the unit I had. After fighting with it a few weeks, I removed the patch bay, and now I have enough spare cables to last me for many years.

Now that I could limit my audio to a reasonable bandwidth with the equalizer, it was time to bypass the internal microphone circuitry in the Yaesu FT-1000MP altogether for improved frequency response of my transmitted audio. Cringing only slightly, I drilled a hole in the back panel of my transceiver, using some of that blue painter's tape and a paper towel to catch the metal filings. I was much too lazy to try and remove the back panel. I installed a phono jack, and wired it to the input of the balanced modulator via a 220 uf capacitor. This step is not for the faint of heart. It requires soldering directly to a pin on the balanced modulator chip in the transceiver. There are several ways you can damage your transceiver doing all of this, so extreme caution is needed. Next some menu changes had to be made in the transceiver. The EDSP feature must be shut off, etc. The ALC meter still works, so adjusting the transmitted modulation level is easy, using the level pot on the interface box. I tend to run it near the end of the normal ALC range. I did discover that when transmitting CW, my output power varied by what sounds my microphone pickd up! So when operating CW, I must now open the circuit from the microphone somewhere or flip off the phantom power to the microphone. This is easy, as the Behringer microphone preamplifier has a switch for phantom power, and another switch for selecting inputs. If I build another interface box, I may add a switch there, so it will be within easy reach of my operating position. When on the air with this setup, I received many excellent audio reports, so I must have been doing something right.

Next piece was an audio compressor, to give my transmitted audio a little more punch. My son gave me a Behringer compressor as a Christmas gift. I have the one with four separate compressors in it, but I am only using one of them. You can save money and only buy a stereo one, because you only need one channel. Street prices for Behringer units are $100 to $149, depending on the model. DBX makes a nice one for $150, and a really nice one for around $250 (that one would have been my first choice). Many compressors also have other useful features, such as a noise gate, and a limiter. So there are many devices to choose from out there. Like anything else, you can spend a thousand dollars or more if you feel the urge to splurge.

Then I saw a used Behringer Virtualizer Pro at Guitar Center one day for only $50. This is half the price of a new unit. I had to have it, and brought it home with me. This device does A/D conversion on the input. Then it has something like 71 different effects you can use to alter your sound, and finally does D/A conversion for output. I used it to add just a tiny bit of reverberation. I just added enough to notice it if you turned it off, but not enough to be very noticeable or annoying. This added a little polish and a studio quality to the sound. Evidently my unit had a problem, and would not keep the settings that I programmed into it when power was removed. So out it went; maybe to be replaced someday.

Almost done; I only added one more piece of audio processing equipment. I picked up a used CBS Laboratories Audimax III. This piece of equipment was used as a limiter in a commercial radio station many years ago. They were very popular back in the 70's. So this is now the last professional audio processing piece in my transmitter audio chain. It feeds my homemade interface box. The interface box drops the professional level down to consumer level and isolates the ground between the audio rack and my transceiver. It also has the gain control that I now use to set my transmitter modulation level. The interface box sits close to my transceiver, so that I can touch up the level easily when needed, such as when I am using my Collins 30S-1 linear amplifier to get through a pile up.

So the final configuration is: microphone, preamplifier, equalizer, compressor, limiter, interface box, and finally the transceiver. I did add a Monster Pro 2500 power conditioner to the rack of equipment. This $200 unit controls the AC input power to all the other pieces of equipment in the rack. It has a digital voltmeter, lots of jacks, and even a power up delay circuit for some jacks. A little extra filtering and protection on your AC power gives great piece of mind. I use a similar unit manufactured by Furman for my computer equipment.

How does all this sound? I like it a lot. Do I get good audio reports? You bet I do. “Mike, you sound like a broadcast station.” “You have great audio.” Do I get through DX pileups? I sure do, and I only have a vertical antenna with four buried radials, no tower or directional antenna with lots of gain. It seems to me, that if you sound a little different than everyone else, it increases your changes of being picked out of the pile up by the DX station. Being loud and clean sounding doesn't hurt either. I have been running this way for over a year now, and I have never been told my signal is too wide or that I am splattering. I honestly have not received one negative comment about my transmitted audio, but frequently receive unsolicited positive remarks about how I sound. I will not say my audio is perfect, and if I am trying something new or fiddling with the adjustments, you may hear me and think I sound terrible. Hopefully you will tell me if that happens so I can correct it immediately. Experimentation is part of the fun of Amateur Radio, so I will be making changes and trying new equipment as long as I am able to.

Total cost was about $1200 including everything that I was using. You can easily spend more or less to fit your budget. You don't need a patch bay. You can live without the reverb unit, etc. If I had to do it all over again, I would probably buy a preamplifier, then one box that does the rest of the processing, or maybe one box that even includes the preamplifier. There are several to choose from, with many of them for under $500. I may get away from the "overly sensitive" condenser microphone one of these days, or perhaps try to modify mine to be more directional. I did try a lesser expensive condenser microphone, but was not pleased with how it sounded. I may try a more expensive one someday. A lot of people use the Heil PR-40 dynamic microphone. For about $75 more you can get the Electro Voice RE-20; for yet another $100 the Electro Voice RE-27, or the Shure SM-7B. Any of these I believe would be an excellent choice. I have heard them all on the air, and they all sounded fine to me. They are all also used in professional broadcast studios. Those Electro Voice microphones tend not to distort much by proximity effect when you talk very close to them. So if you like to talk close to your microphone, one of those would be an excellent choice. A shock mount for the microphone is also a good investment. It isolates the microphone from vibrations. For the $160 I paid for my AKG microphone, I consider it a bargain. I like the way I sound with it. Although being a condenser design, it does require the phantom power supply.

You do not have to tap into the balanced modulator if you would rather not modify your transceiver. Just adding a little external processing, and going into the phone patch jack should make you sound better than the stock microphone plugged into the front of your transceiver. In fact, just processing the audio from any microphone should make it sound better. You can feed your processed audio into your standard microphone jack if you need to. Some ESSB operators go the extra mile and replace the filters in their transceiver for even wider bandwidth on transmit and receive. I do not wish to do that, and did not find it necessary to achieve my goal. I want less bandwidth on received audio most of the time, to make it easier to pull DX stations out of the noise during heavy QRM. Speaking of receive, it is possible someone may tell you they do not like the way you sound with your new wider processed audio, although it has not happened to me yet. It could be that the receiving station is using a very limited bandwidth receiver, and your processed (now slightly wider than normal) transmitted signal is too wide for their receiver passband. You can demonstrate this yourself. Tune in an ESSB station, and switch your receiver IF filter, if you can. At 2 KHz it does not sound very pleasing to listen to, but is much better at 2.4 KHz, better yet at 3 KHz, etc.

So if you want to give this a try, there are lots of websites to give you more info. Just run web searches for ESSB and HI-FI SSB. You will easily find several sites to get you started. I am also happy to talk about it if you hear me on the air.

73 de WB8EVI
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Digital speech within 125 Hz bandwidth (DS@125)
By N6IEF - Mike

Objective

To modify and write code needed to convert analog voice into narrow band digital modulation.

Why do this?

The bandwidth of voice is about 2400 Hz. When speech could be reduced to 125 Hz, the gain would be 12.8 dB (19.2X). Processing gain by a computer is cost free. This project receives weak signals 9 dB below SSB (Single Side Band) noise floor of the radio.

NOTE: For those who have not worked with digital modulation, there is a prequel at the end which should be read first.

Generating of the transmit phonemes

A phoneme is to speech as the alphabet is to reading or writing. Since each person sounds different from another, it is clear that the computer must recognize the unique phonemes used by only that person while operating this software. The software must be able to teach itself the phonemes so that it can recognize that person's voice, which is done by reading words shown on the monitor into the microphone while holding down the space bar of the keyboard.

The code used

The 45 phonemes are represented by a code made up of 1’s and 0’s. The code is similar to a court recorder typing out steno, which can be read back. All code groups start with 1 and end with two or more 0’s. Since phonemes are grouped by the shape of the mouth, tongue and lips, the codes used in one group of phonemes should be as different as possible from other groups. Some phonemes are longer than others and they should have a longer code. Of the 53 codes, only 45 are used with eight as spares. This code is exactly the same Varicode used in PSK-31, (Phase Shift Keying with 31 Hz bandwidth).

100, 1100, 10100, 11100, 101100, 111100, 1010100, 1011100, 1101100, 1110100, 1111100, 10101100, 10110100, 10111100, 11010100, 11011100, 11101100, 11110100, 11111100, 101010100, 101011100, 101101100, 101110100, 101111100, 110101100, 110110100, 110111100, 111010100, 111011100, 111101100, 111110100, 111111100, 1010101100, 1010110100, 1010111100, 1011010100, 1011011100, 1011101100, 1011110100, 1011111100, 1101010100, 1101011100, 1101101100, 1101110100, 1101111100, 1110101100, 1110110100, 1110111100, 1111010100, 1111011100, 1111101100, 1111110100, 1111111100

As shown, the code is the fastest speed for each phoneme. By adding one or more extra 0’s to any code, the length of that phoneme is stretched by increments of 1/125 of a second. This is very important because voice speed is constantly changing. The original 45 phonemes are expanded to many new phonemes.

The software summary

Voice received through the computer’s microphone is converted into numbers, amplified to a constant level, converted into 16 bands of frequency, cut into three parallel 24 mS sections of time, compared in a two-stage process to a library of 45 phonemes that have been made by the operator of the radio, converted to a digital code, stretched to fit the operator’s real speech, and sent to the radio in a modified QPSK-125 format (Quadrature Phase Shift Keying with 125 Hz bandwidth) to be transmitted.

The transmit sequence

The transmit sequence starts with the pressing of the space bar on the computer keyboard and continues until the space bar is released. The computer speakers' D/A (Digital to Analog) converter is forced to zero. The AGC (Automatic Gain Control) is un-frozen.

The 400 mS synchronizing alternating series of ones and zeros is sent to the transmit section of the PSK program. This 125 Hz BPSK code is used by the other computers’ receiver section of the PSK program to re-synchronize the 125 Hz clock. This insures that the receiver section of the PSK program is sampled in the middle of each code digit and is not sampled during the transitions.

The sampling 66,000 Hz clock starts the A/D (Analog to Digital) converter from the microphone input of the computer. Each clock cycle makes the A/D output a 16-digit signed number. Each number goes to the AGC (Automatic Gain Control) array and the AGC level adjustor.

The AGC is used to amplify the weak signal from the microphone to about 90% of the maximum value for the 16-digit signed number. This is done by TBD (To Be Determined) method. It will use the normal fast attack and slow decay, but it will be frozen when the space bar is not pressed.

Some of the numbers from the AGC level adjustor go to 32 FIR (Finite Impulse Response) low-pass filters. A FIR low-pass filter has a frequency F and a number of taps N and a sampling rate. The problem with filters is the time difference, DPD (Differential Propagation Delay), between the outputs of high frequency filters and the outputs of low frequency filters with the same input to both. The 17 F frequencies for the FIR filters are 8000 Hz, 6083 Hz, 4625 Hz, 3517 Hz, 2674 Hz, 2033 Hz, 1546 Hz, 1176 Hz, 894 Hz, 680 Hz, 517 Hz, 393 Hz, 299 Hz, 227 Hz, 173 Hz, 131 Hz, and 100 Hz.

A first order attempt to solve the DPD problem is to use different sampling frequencies for each group of two FIR filters. The numbers from the A/D are at a 66,000 Hz rate. When every fourth number is used, the new sampling rate is 16,500 Hz, or 66,000 Hz divided by 4 is 16,500 Hz. The 16 divide-by numbers are 4, 5, 7, 9, 12, 16, 21, 28, 36, 48, 63, 82, 110, 145, 190, and 251.

For example, the divided-by-4 sampling rate is used by the two highest frequency FIR low-pass filters, 8000 Hz and 6083 Hz. Both FIR low-pass filters need to have the same number of taps N to insure that their output numbers are available at the same time, or zero DPD. By subtracting the output numbers from these two FIR low-pass filters, new numbers are created at the same sampling rate. These numbers are approximately the instantaneous amplitude of the sound between the two frequencies. In the same way the other numbers are made by two FIR low-pass filters for each of the other 15 frequency bands, with each associated sampling rate. NOTE: Each set of two FIR low-pass filters has the same sampling rate, and taps N, and their DPD is zero, so their output numbers can be subtracted.

The DPD between frequency bands is not zero, but this doesn’t matter because the numbers between frequency bands are never used together.

This complicated process is being done to change the time-amplitude energy of voice into the time-frequency energy of speech. Some people say that there are 44 phonemes and one extra phoneme for no sound. Dividing the A/D sample clock rate of 66,000 Hz by 1584 makes the phoneme sample interval. This interval is 24 mS. After the start of the phoneme sample interval, the absolute values of the next 12 numbers from each of the 16 frequency bands are examined for the largest value. This is called the peak search process. Just before the end of the interval, say at count 1583 of 1584, the 16 peak numbers are put into the phoneme sample array. The phoneme sample array can be visualized as a blue transparency bar-graph with 16 vertical columns, but it actually is a 16 by 1 array of numbers. This process re-synchronizes the DPD problem to the original 66,000 Hz sample clock of the microphone input D/A.

In order not to miss a phoneme, the above procedure is repeated in parallel, two other times by starting at counts 528 and 1056 from the original 1 to 1584. This insures a new phoneme sample array every 8 mS. The 24 mS time interval is used to detect each of the 45 phonemes, even when the phoneme lasts longer. To reduce the chances of receiving part of one phoneme and part of another phoneme, a new set of 16 peak numbers is started every 528 numbers or 8 mS. Overlapping numbers insure that a phoneme is not missed.

One of three parallel phoneme comparators takes its phoneme sample array and compares it to one of 45 arrays of 16 numbers from the phoneme library, visualized as a yellow transparency bar-graph. By subtracting one array from the other array, visualized as overlapping the yellow and the blue transparencies, the differences are visualized as blue and yellow and the common part of the bar-graph is visualized as green. To amplify these 16 differences, they are multiplied by themselves to make them all positive numbers and these 16 positive numbers are added together to make the single error number for that comparison. In the same way, the next array of 16 numbers from the phoneme library is subtracted from the original phoneme sample array until all 45 arrays from the phoneme library are used. The phoneme code for the three smallest error numbers of the 45 possible error numbers is sent to the guesser along with their error numbers and code sizes from the phoneme library. Although this process takes some time, the output rate should be the same as the input rate of 24 mS. Since there are three peak detectors with three comparators staggered 8 mS apart, a phoneme code with its error number and code size is sent into the guesser every 8 mS. The code size is a number from three to ten, which is the number of ones and zeros in that phoneme code.

The guesser is used to determine what code should be sent to the output Q. The guesser is like a Q with three levels. Three phoneme codes and their error numbers enter the back of the guesser and work their way down to the front of the guesser. So there are always nine phoneme codes in the guesser. Whenever three codes are entered, three other codes are removed. When there are three of the same phoneme codes in the guesser, the error number of that phoneme code in the front of the guesser is divided by three. When there are two of the same phoneme codes in the guesser, the error number of that phoneme code in the front of the guesser is divided by two. After the divides, the phoneme code and the code size of the smallest error number of the three in the front of the guesser is sent to the output Q. This happens every 8 mS.

The output Q is a buffer that is used to fix problems that happen when one phoneme transitions to another phoneme in our speech. The output Q is used to sort the phoneme codes into groups, like sorting cards into suits. When the phoneme code sent to the back of the output Q is the same as any of the two previous phoneme codes in the output Q, the new phoneme code is moved forward to that same phoneme code group.

One phoneme code is removed from the front of the output Q as each digit of the phoneme code is sent to the transmit part of the PSK program. But before a new phoneme code group is sent to the transmit part of the PSK program, the number of phoneme codes in that group is checked to see that they are more than the minimum number for that code size. When they are less than the minimum number, the group is removed from the output Q.

An extra zero is sent to the transmit part of the PSK program as each extra phoneme code beyond the phoneme code size is removed from the output Q. An example would be the phoneme code of 10100, which is different from 10100000 because the sound of the second code last 3/125 of a second longer. Although there only 45 fundamental phoneme codes, there are hundreds of extensions. No extra zeros are sent to the special phoneme code of 100, but the code could repeat when needed.

When the output Q does not contain enough of the phoneme codes, each digit of the code is still sent to the transmit part of the PSK program, but the output Q does not move to the next phoneme code until all the digits of that code are sent. This part is TBD, but there must be a way to make the fill in code slots equal to the slots removed by the non minimum number code.

Code sizes (Minimum number) are 3 (2), 4 (2), 5 (3), 6 (4), 7 (4), 8 (5), 9 (6) and 10 (7).

At the start of each transmission sequence, when the space bar on the computer keyboard is pressed, the guesser and output Q are filled with a quantity of the code 100, the special code for no-sound, because the computer takes some time for the numbers from the microphone A/D to be processed. At the start of a transmission, these leading 100 special codes are removed from the output Q and the ones and zeros of the rest of the real phoneme codes are sent to the transmit part of the PSK program.

Each digit of the phoneme code is sent serially at a 8 mS rate. This is the same rate at which the error numbers enter the guesser and the same rate at which the audio code modulates the radio transmitter. At the end of each transmission, the space bar on the computer keyboard is released, all 100 special codes on the back of the output Q are removed and the special end code of 1111111111 is sent to the output Q and then to the transmit part of the PSK program. This sets the squelch of the other computers' receiver section of the PSK program.

With today’s computers having 3 GHz clocks and quad processors, twelve billion operations can be done every second. Speech recognition software in 2004 did not have this computer power and did not work very well. In the event the guesser makes a mistake, our brains deal with the occasional anomalous sound from the computer's speaker. Words may sound mispronounced, but we should know what they mean.

This transmit sequence may look like speech recognition software, but it has two differences. First, speech-to-text software requires the ability to handle spelling and meaning. An example would be the homonyms “to,” “two,” and “too.” Most of the code for speech recognition software would not be used. Second, speech recognition software has no time limit from sound to text. The transmit sequence of this software requires a minimum fixed time delay.

The receiver sequence

The receiver sequence starts with the release of the space bar on the computer keyboard and continues until the space bar is pressed. The microphone A/D is forced to zero. The guesser is not allowed to send more codes to the output Q.

After the 400 mS BPSK signal re-synchronizes the 125 Hz clock and releases the squelch, the ones and zeros coming from the receive part of the PSK program are sent to the phoneme comparator. The first one after two consecutive zeros starts a new phoneme code. The first code of ones and zeros assumes a 100 special code for no-sound has been detected. Since the phoneme code is sent serially, each digit goes to the phoneme code library one at a time where half of the library is eliminated with each digit after the first one. When the next digit is received, half of the half of the library is eliminated and so on until two consecutive zeros are detected. That is when the phoneme code is found. Then four phoneme arrays (audio clips) are found from the phoneme library. The first phoneme array is called the main array. It is ((the code size – 2) X 8 mS) long and has ((the code size – 2) X 528) numbers. The next phoneme array is called the zero array. It is 8 mS long and has 528 numbers. The next phoneme array is called the third array. It is the same as the zero array, but each of the numbers is divided by three. The last phoneme array is called the two-thirds array. It is the same as the third array, but each of the numbers is multiplied by two. Normally a .wav file would be used for an audio clip, but that won’t work for 8 mS to 64 mS sound clips with 528 to 4224 numbers in each array. A new way to send the numbers to the speaker D/A will be made by a TBD method.

When the first two consecutive zeros of the present phoneme code are detected, each of the numbers in the present third array and each of the numbers in the previous two-thirds array are added in the first blender array. Then each of the numbers in the present two-thirds array and each of the numbers in the previous third array are added in the second blender array. Then the first blender array is sent to the sound card D/A buffer of the computer, followed by second blender array, followed by the main array of the present phoneme code. When another zero is detected after the first two zeros of the present phoneme code, the zero array of the present phoneme code is sent to the sound card D/A buffer for each extra zero.

The two 8 mS blender arrays are used to ease the transition from one phoneme to the next phoneme when played on the computer's speaker.

Then the next detected phoneme code is sent to the sound card D/A buffer and so forth. The sampling rate for the D/A is 66,000 Hz because 66,000 Hz was used to make the original phoneme code arrays in the look-up library. Although this example uses one set of phoneme voice clips for each phoneme code, the computer contains 11 other sets of phoneme voice clips, which can be selected by the operator pressing one of the F1 through F12 keys on the computer keyboard.

Making the operator’s phonemes sequence

Before doing the transmit sequence the phoneme library arrays must be known. This is a one-time only event, which must be done before the computer is connected to the radio. The operator says words into the microphone that are displayed on the computer monitor, while holding down the space bar on the keyboard. The same microphone and A/D converter from the transmit section are used to make the numbers of the phoneme, which are then applied to the same FIR filters. After the start of the phoneme sample interval, the absolute value of the next 12 numbers from each of the 16 frequency bands are examined for the largest value. This is the same peak search process as in the transmit section. Just before the end of the interval, say at count 1543 of 1584, the 16 peak numbers are put into the phoneme sample array. The phoneme sample array becomes the library value for that phoneme. But this library value might be wrong. So the word should be repeated and averaged. When the change in the average is small, then there is enough information to use the array. This needs to be done for all 44 phonemes. The no-sound phoneme is the only exception. No testing is required. Any DPD problems are exactly the same in both the transmit sequence and the making operator’s phonemes sequence, which negate each other.

Making the library sequence at the distribution

The main, zero, third and two-third arrays used in the library of the receive section needs to be made. Twelve different people should record the 44 phonemes. This will be done in the lab with audio spectrum analyzers and high tech computers. Each of the numbers in an array must start and end at zero crossing with a positive slope. This is to prevent discontinuities when any two sets of numbers are connected then played into the computer speaker. After the main phoneme arrays are made, the zero arrays are made. This could be done in the lab by changing individual numbers in the zero array for best sound when connected and played on the computer’s speaker. The third array and the two-thirds array are easy to do.

Conclusion

At this time this project has died of apathy. Since I was the only one in the world who wanted to do it, this project has ended on 1-1-2009. Please contact me at mike.lebo@gmail.com or 858-278-5851 or Skype (Michael E. Lebo) if you have any questions.

A prequel to digital speech within 125 Hz bandwidth

Phase Shift Keying (PSK) is composed of two parts, Bi-Phase Shift Keying (BPSK) and Quadrature Phase Shift Keying (QPSK). This is a narrative on how BPSK-31 and QPSK-125 works. It also explains some of the properties of voice and how they relate to digital speech.

In the beginning of radio the carrier was modulated by turning it on and off, On-Off Keying (OOK). This became known as CW, when used with Morris code. Phone was added when the modulation was changed to AM. This form of modulation has a carrier and a upper and a lower sidebands. An improvement was made when one of the sidebands and the carrier were remove, which allowed better use of the radio spectrum and better efficiency of the transmitted power. This signal sideband (SSB) modulation is what we use in our radios today for point to point communication. By connecting our radios to computers, other forms of digital modulation can be created.

The details of how a radio is connected to a computer are complex and not covered here, but it happens somehow.

Inside a computer are numbers. A program could make numbers that represent a digital audio sin wave and send these numbers at a sample rate to the hardware of the audio sound card, where they are converted into a AC voltage. The part of the sound card that does this is the Digital to Analog converter (D/A). Then this AC voltage is used to modulate the transmitter part of the radio, which creates a constant carrier and that is sent to the antenna. If the program was modified to only make number when a key on the keyboard was pressed, lets say the notorious "any key", and the operator was to press the key using Morris code, a CW transmission could be sent. This is silly to use a computer and keyboard as a telegraph key, but is show the point that the computer could modulate the audio which in turn modulates the radio.

Two things are needed to turn this silly program into BPSK-31. First each key on the keyboard needs to be given a number or code. This is called the Varicode. The rules for this code are that the first digit must start with a one and the last two digits must be zeros. There 128 codes used in this computer keyboard transmission. They include the alphabet, both upper and lower case, numbers, punctuation, special characters and typing operators like carriage returns and line feeds. The number of digits in each code ranges from three to fourteen, with the most used keys given the smaller number of digits, just like Morris code. NOTE: Some of you use the Caps Lock key while typing. In today's text messaging world, this is called shouting or yelling. Capitol letters have more digits than lower case letters and take more time to transmit. As each key is pressed on the keyboard, its Varicode is sent to a buffer for storage and the ones and zeros are then sent to the phase shift modulator serially at a 31.25 Hz rate. Why pick 31.25 Hz? It turns out that there is a 8,000 Hz oscillator in each sound card. No matter what kind of sound card or what kind of computer or what operating system is used, they all have this 8,000 Hz oscillator. 8,000 Hz divided by 256 is 31.25 Hz. 31.25 Hz is the rate that each of the digit in the buffer is removed.

The other thing needed to turn this into BPSK-31 is to reverse the phase of the audio made by the numbers in the computer. This is easy to do by negating each of the numbers sent to the audio sound card when a one is removed from the buffer and not negating each of the numbers when a zero is removed from the buffer. But there is big problem. When there is an abrupt transition in the voltage, distortion accrues in the form of harmonics. The only number that does not make harmonic distortion when negated is zero. So the values of the numbers are slowly reduced to zero at the transition from a one to a zero or from a zero to a one, and slowly enlarged to full value after the transitions. A formula has been developed to adjust the slops of the reduction and enlargement so that minimum distortion happens.

Now lets take a look at the receive part of BPSK-31. Again the details of how a radio is connected to a computer are complex and not covered here, but it happens somehow.

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Now lets take a look at the receive part of BPSK-31. Again the details of how a radio is connected to a computer are complex and not covered here, but it happens somehow.

The sound from the radio enters the computer through the sound card. The voltage of the sound goes to a Analog to Digital converter (A/D), where numbers are made at the sound card sample rate. These number go to three pieces of test equipment and the rest of the program.

The first piece of test equipment is the audio spectrum analyzer. The horizontal scale of this graph shows the frequency with a full range of about 100 Hz to 3,000 Hz on a liner scale. The vertical scale of this graph shows the amplitude at that frequency on a logarithmic scale. The noise seen on the display rolls off at about 300 Hz and about 2,400 Hz. These frequencies are made from the hardware filters in the radio. A strong signal could be seen as vertical lines above the noise. The computer mouse could move the cursor to the signal and the scale could be changed to zoom in on that signal. Now a very important thing happens. As the bandwidth is reduce by zooming in, the noise level is reduced. This is because only the noise within the new bandwidth is seen. This is always less the 100% of the noise. The closer you zoom in the lower the noise. If you zoom into a bandwidth of 50 Hz, over 98% of the noise will be reduced..

A signal, which was previously below the noise, now could be much larger than the noise, because the signal strength does not change when the bandwidth is reduced. This is why BPSK-31 is so good. The spectrum analyzer is not a good tool for finding signals below the noise floor.
The next piece of test equipment is the waterfall. The horizontal scale is the full frequency scale of the spectrum analyzer. The vertical scale shows a straight line. The intensity at each point of the straight line is the average peak amplitude at that frequency. The peak amplitude is the signal plus the noise, which is always larger the noise even if the signal is less then the noise.

After the averaging time of about one second, the line is frozen and lowered down vertically. Then a new line is made. This process is continually repeated. It looks like a waterfall as the lines move down the screen. When all the lines are looked at together, the peak intensities form vertical lines. This is a good piece of test equipment to see signals that are below the noise floor. Again the computer mouse could move the cursor to a vertical line on the waterfall. The courser is actually the center of a narrow band digital software filter that the PSK program uses to pass the PSK signal and reject all other noise and signals. The cursor is also the frequency of the audio sin wave made by the computer generated numbers.
The last piece of test equipment is a vector scope (phase scope) It shows the phase of the detected signal. In order to measure the phase of two signals, they both must be on the same frequency. The PSK program has a built in Automatic Frequency Control (AFC) that puts the phase detector at the same audio frequency as the received signal. This test equipment allows us to see if the signal is BPSK or QPSK.

The phase detector creates a zero when the phases are equal and a one when the phases are opposite. These ones and zeros are used by the PSK program to find the Varicode, which is used to display the received message characters on the monitor. It is important for the computer to check the phase in the middle of the digit not during the transition. This is done with a second AFC at 31.25 Hz that uses a zero crossing detector and a delay.
When a new transmission starts, a series of ones and zeros are transmitted to synchronize the 31.25 Hz receive clock and release the receiver squelch. The series of ones and zeros are used because they have the maximum amount of zero crossings. At the end of all transmissions a special code is sent the receiver to set squelch, which stops the displaying random characters made by noise. When the transmitter buffer is empty the series of ones and zeros are sent until the next key is pushed and a Varicode is put into the transmit buffer.

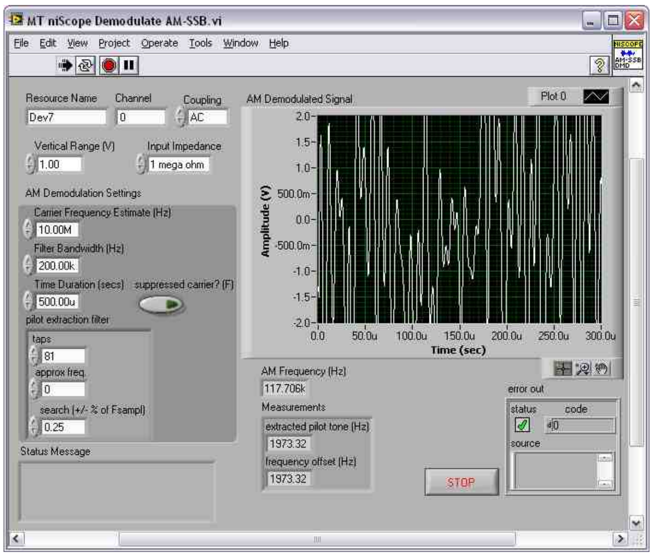
QPSK-31 is the same as BPSK-31, but there are four phases that are 90° apart. The phase 0° could be used for Varicode digits 00. The phase 90° could be used for Varicode digits 01. The phase 180° could be used for Varicode digits 11. The phase 270° could be used for Varicode digits 10. This would double the transfer rate, but this isn't what is done. Instead and error correcting algorithm is used to fix errors in the received code. I won't try to explain how it works, but the net result is that when a digit is detected, its value is checked against the previous four values and a final decision is made, if this digit is a one or a zero. The result is that one out of five digits could be wrong and the received code will fix itself to 100% copy and the transfer rate is the original 31.25 Hz.

To get from QPSK-31 to QPSK-125 the 8,000 Hz oscillator in the sound card is divided by 64 to get 125 Hz and the received software bandpass filter is increased from 50 Hz to 150 Hz.

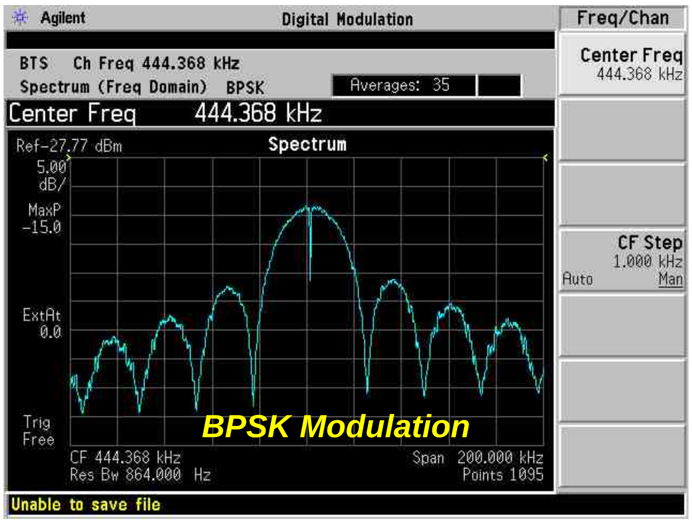
Voice has at least four properties, volume, timing, speech and pitch. Our radios have processors that try to keep a constant volume so my project doesn't transmit the volume. Timing is very important and needs to be transmitted. We are constantly changing the speed at which we talk. Timing is not accounted is speech recognition software. Pitch is not need to be transmitted to understand speech, but is is essential to recognize the voice of the operator. A complete branch of applied science is devoted to speech. Unfortunately they don't have their act together in that some of them say there are 44 fundamental blocks of speech called phonemes and others say there are only 40 phonemes. I know that the most important phoneme is no-sound. The word "at" could not be said without a no-sound between the "a" and the "t".

It is obvious that what is needed to be done is to assign a Varicode number to each phoneme. The shortest phoneme should be given the Varicode number with the shortest digits. For example the Varicode 100 is given to no-sound. There are only 45 of the 126 Varicode numbers used and maximum length is ten digits. The worse case is 15 phonemes per second, but because most phonemes have a small number of digits, the average worse case is about 20 phonemes per second. I am not sure how many phonemes per second we use in are speech, but I think that should be good enough for slow talking.

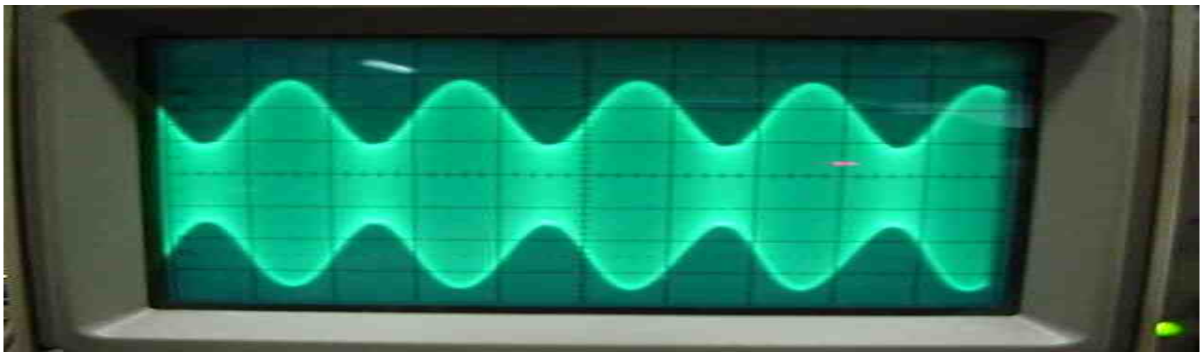
73's ! Mike N6IEF



Resource Name: Dev7
Channel: 0
Coupling: AC
Vertical Range (V): 1.00
Input Impedance: 1 mega ohm
AM Demodulation Settings
Carrier Frequency Estimate (Hz): 10.00M
Filter Bandwidth (Hz): 200.00k
Time Duration (secs): 500.00u
suppressed carrier? (F)
pilot extraction filter
taps: 81
approx freq.: 0
search (+/- % of Fsampl): 0.25
Status Message
AM Frequency (Hz): 117.706k
Measurements
extracted pilot tone (Hz): 1973.32
frequency offset (Hz): 1973.32
error out
status ☑ code 0
source



BTS Ch Freq 444.368 kHz
Spectrum (Freq Domain) BPSK
Averages: 35
Center Freq 444.368 kHz
Center Freq 444.368 kHz
CF Step 1.000 kHz
Ref-27.77 dBm
BPSK Modulation
CF 444.368 kHz
Res Bw 864.000 Hz
Span 200.000 kHz
Points 1095
Unable to save file



THE DX NEWS

From the Web (tnx opdx, 425 dx news, arrl...)

9A800, CROATIA

The Radio Club "Varazdin" (9A1HDE/9A7A) will be active as 9A800VZ until the end of the year. First activity will be during the CQWW WPX SSB Contest (March 28-29th). Activity is to celebrate the 800th anniversary that King Andrija II gave to the people of Varazdin the status as a free and royal town. More details are available on QRZ.com. QSL via 9A7A.

C9, MOZAMBIQUE

Members of the Texas DX Society will be active as C91TX from Bilene, Maputo Province, between March 25th and April 5th. Bilene is 180km from the capital city of Maputo. Activity will be on all bands 160-10 meters with 3 active stations, one station each for CW, SSB, and the Digital modes. They will participate in the CQWW WPX SSB Contest (March 28-29th). Operators mentioned are: Cal/WF5W, Paul/W5PF, Madison/W5MJ, Bill/K5WAF, Dale/KG5U and Jim/N4AL. QSL Manager for C91TX is W5PF. Depending on internet access, they hope to have an online log search page once operations start, but don't expect daily updates. Texas DX Society C91TX Web page at: http://www.tdxs.net/c91.html

FJ, ST. BARTHELEMY (NA-146)

Oscar/EB1HF and Pablo/EC1DPM will be active as FJ/homecall between April 7-12th. Activity will be only on the digital modes, principally on RTTY, on the 20/15/10 meter bands. They will have two Icom 706s into dipoles and a 2 element yagi (by Super Antenna). Their QSL Manager is EC1AE. QSL only direct, (w/SAE + 2 USDs) or (w/SAE + 1 IRC) VALID CN01 IRC, to: Oscar Gancedo, P.O. Box 921, E-33080, Oviedo, SPAIN.

JW, SVALBARD

Just a reminder that Francois, F8DVD, will once again be active as JW/F8DVD from the Longyearbyen ARC located on Spitsbergen Island, 78 degree North, and about a thousand kilometers far from the geographic North Pole (EU-026, WAZ 40 and Grid Square JQ78TF), April 19-25th. Activity will be on all HF bands both CW and SSB. This will be Francois's 6th time on the island. He will use the Longyearbyen Radio Club's equipment which consists of an ICOM 751 and a 500w. into a 5 el. yagi on a 30 meters high tower. QSL via his home callsign, through the French REF-Union Bureau or direct, w/SAE + 1 IRC (or 1 USD for EU, and 2 USDs for elsewhere) to: Francois Bergez, 6, Rue de la Liberte, F-71000 MACON, France.

OH0, ALAND ISLAND (EU-002)

Anne, OH2YL, will be active as OH0/OH2YL between April 9-14th. Activity will be on the HF bands using CW and SSB. QSL via OH2YL.

P2, PAPUA NEW GUINEA (IOTA Op)

Luis/ CT1AGF, Derek/G3KHZ, Steve/G4EDG and Hans/SM6CVX, plus Gordon/G3USR, will activate three Papua New Guinea IOTA islands between October 22nd and November 9th. Islands mentioned are Tanga Island (OC-102), Green Island (OC-231) and Woodlark Island (OC-205) . Activity will be on 160- 15 m. using CW, SSB and RTTY modes. Gordon/G3USR will be exclusively on SSB. The team will be using new single band vertical dipoles for 30-15 meters and a ground plane for 40 meters.

PJ2, NETHERLANDS ANTILLES (Contest Station Available)

Geoff, W0CG (PJ2DX), resident caretaker of PJ2T, announced that nobody in the PJ2T club (CCC - Caribbean Contesting Consortium) is interested or able to operate the Curacao station for the IARU HF World Championship in July. Thus, the place is available if you would be interested in coming there as a Single- Op, or to organize a group operation. With sufficient lead time, Geoff could arrange for you to get a callsign of the form PJ2* (except that PJ2A, PJ2R, and PJ2T are unavailable). If you wanted to do a group operation that would include Geoff for a little bit of the operating time, you would be able to sign PJ2T. Two by two callsigns are NOT allowed for visitors to Curacao, sorry. The QTH has two bedrooms, two baths, and four beds available. (Geoff will sleep in another room attached to the house.) There's tons of info about the place at: http://www.pj2t.org E-mail at: ghoward@kent.edu

SPECIAL EVENT

Look for special event station R150A to be active through the end of April. Activity is to celebrate the 150th anniversary of the birth of A.S.Popov. Operations will be from the Central Museum of Communications in St.Petersburg. Activity over the past week has been on 40/20 meters CW and SSB. QSL via RK1A.

SPECIAL EVENT (Dayton HamVention)

Look for special event station W1AW/8 to be on the air during the Dayton HamVention (May 15-17th). They are currently looking for volunteers to operate the station for 4 hour shifts. Volunteers will receive an on-grounds parking pass, an admission ticket and a hat. Sign up in advance is STRONGLY recommended -- first come first served on requested shifts. This WILL fill up quickly. Contact via E-mail Jerry Bodey, N8OWV at: jerrybodey@sbcglobal.net

VK9L, LORD HOWE ISLAND (Update)

As this was being typed, there was some VK9LA activity on the air. The last of the DXpedition team should arrive on the island by March 24th (total of 16 operators). The operation with 7 full HF stations from 2 separate sites, as well as one 6m station will be on the take air until April 3rd. Modes of operation are SSB, CW and RTTY. For suggested frequencies, see OPDX.899. The QSLing chores will be handled by VK4FW. An online QSL Requesting Service is now available at:
http://www.odxg.org/qsl.htm
Any QSL CARDS managed by ODXG inc., or Bill Horner, VK4FW, can be sent to you utilizing this system. This is a FREE service if you request your cards to be sent via the BUREAU. A minimum payment of 5 USDs via PAYPAL is required if you request your cards to be mailed DIRECT TO YOU. QSL cards will be printed by UX5UO. For more updates, details on the DXpedition and how to donate to this operation, please visit the ODXG and VK9LA Web pages at:
http://www.odxg.org
http://www.odxg.org/vk9la.htm
ADDED NOTEL: Lord Howe operators Stan/SQ8X and Pete/SQ9DIE have added a daily blog daily on Twitter.com. Look for regular updates on how the DXpedition is progressing at:
http://twitter.com/vk9la

ZD8, ASCENSION ISLAND

Karol, G0UNU, will be active as ZD8KR between May 4-11th. Activity will be mainly on 20 meters CW and SSB. More details will be forthcoming closer to these dates (on (QRZ.com)). QSL via G0UNU, by the Bureau or direct.

THE DX CALENDAR
BY SM3CVM, Lars
http://www.sk3bg.se/

APRIL 2009

- 31/3 CHAGOS ISLANDS; VQ98JC and VQ9JC AF-06
from Diego Garcia by ND9M. He is active as VQ98JC through the end of the year, after that he will use VQ9JC. Expect him to be QRV in his spare time, typically on 12-16.30 UTC (from Sunday to Thursday) and on 12-17.30 UTC (Fridays and Saturdays). Occasional overnight operating will allow him to remain QRV until 1 UTC. QSL via ND9M.

- 31/3 ANTARCTICA; VKØBP
from the Davis Basis (main island only) by VK2ABP/VK2MRP. QSL via VK2CA (see QRZ.com)

- 31/3 CANADA; VC3Y
A special callsign of the "York Region Amateur Radio Club" activated during the 50th anniversary of the club. VE3SST, VE3ZF, VE3VO and VE3IRT are going to activate the lighthouse on Bluffers Park Island (CISA new) with this call on Mar 21/22. QSL cards via bureau or direct to VE3CWO.

- 1/4 DOMINICA; J79BXI NA-101
by SM0XBI. He will operate SSB only. QSL via home call, bureau preferred. QSL via bureau to homecall.

- 1/4 BAHAMAS; C6ANM NA-001
on 160m-6m. He prefers QSL via LoTW or direct to WA2IYO.

- 3/4 HAITI; HH4/K4QD and HH4/AF4Z NA-096
They will work in CW/SSB/RTTY on 160m-10m and also on the lowbands if there is power available during the night hours. They are planning to take part in the CQWW WPX SSB Contest (Mar 28/29) from the clubstation HH2JR using a special 4V4 callsign. QSLs via homecalls.

- 4/4 SOUTH COOK ISLANDS; E51COF OC-013
from Rarotonga by NL8F. He plans to operate SSB on 10, 15, 20, 40, 80 and maybe 17 metres. QSl via K8NA.

- 11/4 GUADELOUPE; FG/F4EBT NA-102
from Basse-Terre. He plans to operate holiday style on, SSB on 80/40/20/17/15/12/10 meters.

- 28/4 SOLOMON ISLANDS; H44MS
by DL2GAC. He plans to operate SSB with a focus on 80 and 40 metres. QSL via home call, direct or bureau. DK9FN (CW operator) and DL2NUD (EME operator) will join DL2GAC (H44MS) in late February for a 2-3 week operation from Temotu Province. DK9FN will go back home on 16 March. He plans to operate CW only on 160-6 metres, hopefully as H4ØFN (the callsign he used back in 1999). Whatever callsign he will be using, the QSL route is via HA8FW (bureau preferred).

Low Power Space Station Contact

AMSAT-UK

By Trevor, M5AKA

Callum Graham MM3YCG recently had a contact with astronaut Mike Fincke who was onboard the International Space Station (ISS). It is believed that Callum is the first UK Foundation license holder to have a contact with an Astronaut onboard the Space Station. The UK Foundation licence limits users to just 10 watts output in the Amateur bands from 1.8 to 440 MHz. (1 watt at 135 kHz and 10 GHz).

Callum was using 10 watts from a Yaesu FT-847 feeding a Sharman Multicom X-50 collinear at 30 feet. He got his license in July 2007, thanks to the Mid Lanark Amateur Radio Society. Since then he has had many contacts through the Amateur Radio Satellites and shown what can be done using low power. Callum has posted a video of his ISS contact on YouTube, see link below.

Mike Fincke holds the Amateur Radio callsign KE5AIT but for this contact he was using the ISS callsign of NA1SS. Mike was running the ISS Kenwood D-700 set up for cross band working on 437.8 and 145.8 MHz and putting out typically 5 watts output on 2 metres. The Kenwood doesn't run its full rated power because convection cooling doesn't work in a zero gravity environment.

Most of the astronauts on the ISS are licensed Radio Amateurs. If you've not heard the ISS before try listening on 145.800 MHz FM, you'll find rigs with the wider filters for 25 kHz channel spacing work best.

The amateur equipment on the ISS can operate in many different modes on 145.800 MHz such as cross band FM repeater, AX.25 Packet or Slow Scan TV. Websites such as ARISS or the ISS Fan Club are good sources of information regarding which mode is in use when you listen. You can find out when the ISS is in range by using the N2YO Real Time Satellite Tracking website.

ISS018E023674

URL's

You can see a video of the MM3YCG –NA1SS contact on YouTube at
http://www.youtube.com/watch?v=aqUR3g5C9Jw
Mid Lanark Amateur Radio Society: http://mlars.org.uk/
N2YO Real Time Satellite Tracking: http://www.n2yo.com/
ISS Fan Club: http://www.issfanclub.com/
ISS Repeater Tips:
http://www.southgatearc.org/news/february2008/iss_repeater_tips.htm
Amateur Radio on the International Space Station (ARISS): http://www.ariss.org/
AMSAT-UK website: http://www.uk.amsat.org/

Easy cure for microphonic VHF VCO in Yaesu FT-817

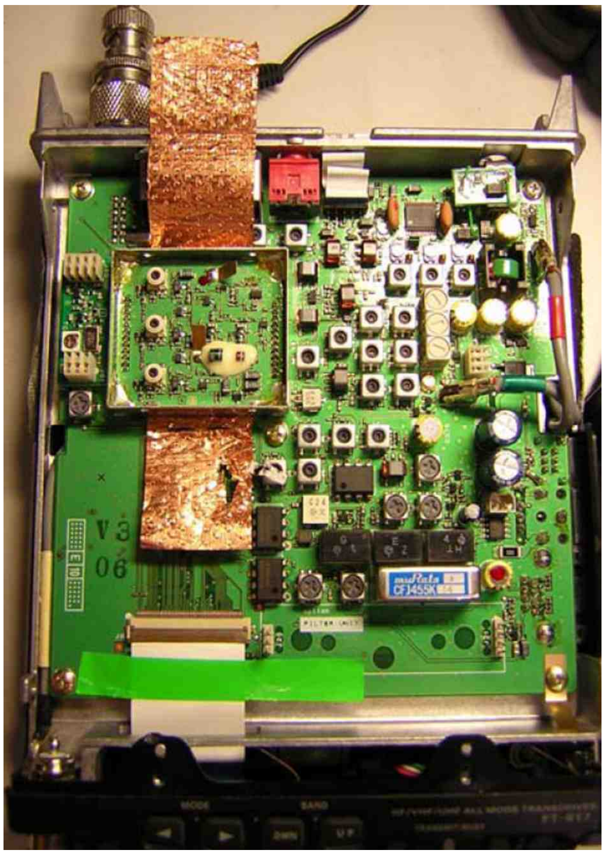
By Erik Finskas OH2LAK

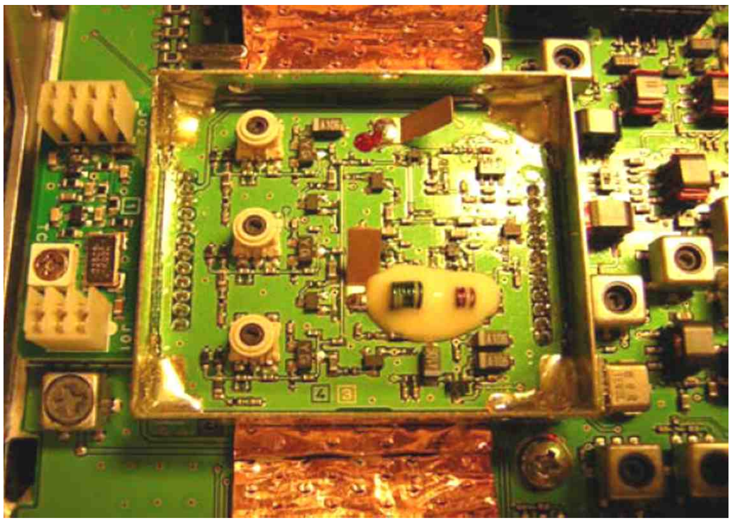
Some manufacturing series of the Yaesu FT-817 has problem with a microphonic VCO, at least on 2m band, when using radio's internal speaker. The PLL tin box including the VCO components is too close to the internal speaker, and with high volume or suitable audio signal the PLL box starts to resonate with the speaker resonation. This effect disturbs highly CW operations as it garbles the sidetone, or just creates howling sound from the speaker when the volume level is increased enough.

Fix is to insert muffle in to the PLL box. I've used antistatic foam mat used for IC's, and it works well.

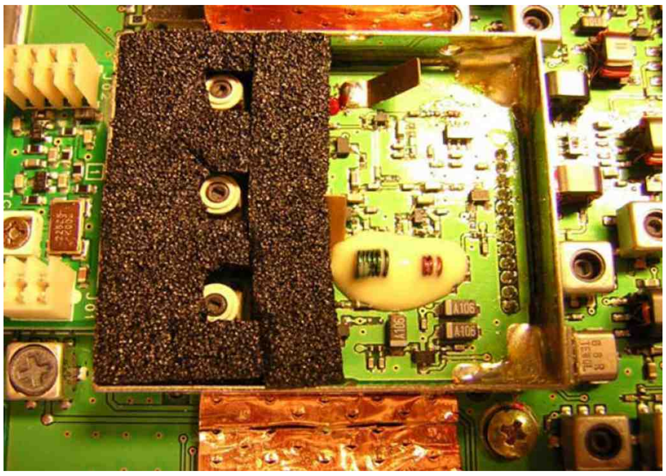
Open the top side of the FT-817 by removing screws on the side and top and back. When the hood is loose, carfully lift it and disconnect the speaker cable when reachable.

The PLL box has copper tape around it, peel the tape open carefully to be able to re-use it, then open the PLL box. It might be soldered from some of its corners, remove the solderings carefully.





Inside the PLL box there are three coils, which cause the problem. Cut a suitable piece of muffle material, eg. the IC mat and place it around the coils as seen in the picture. Close the lid of the box, solder it from all four corners to improve grounding and restore the copper tape on it. Reassemble the top cover and you're done!



73's ! OH2LAK

HMY-2K8 - A multiband HF transceiver :
By Dr. R. RAJASEKHAR, VU2HMY

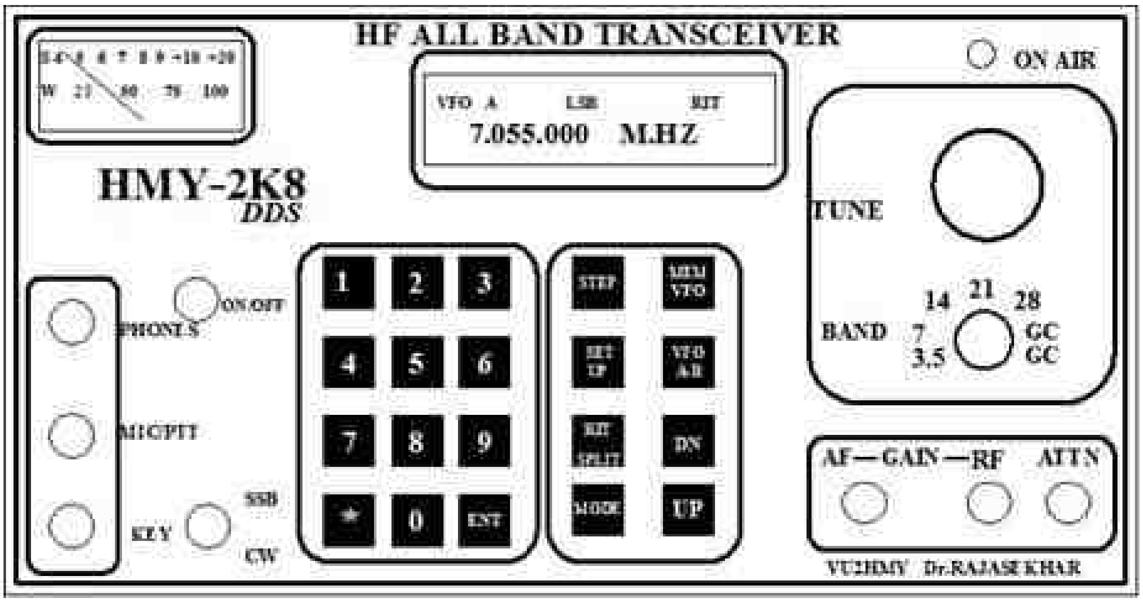


Fig1 : The front panel layout used for the multi band transceiver (8.5 X 4.5 inches).

TECHNICAL SPECIFICATIONS :
Frequency coverage: Ham Bands
3.500 - 3.600 M.Hz (80 M)
7.000 - 7.100M.Hz (40 M)
14.000 – 14.350 M.Hz (20 M)
21.000 - 21.350 M.Hz (15 M)
28.000 – 28.350 M.Hz (10 M)

Frequency control :
Ver. 1: Direct Digital Synthesizer (DDS) with 1 Hz step continuously variable VFO with 20 memory channels. 2 line LCD display. Dual VFO, Split , RIT, Key pad /rotary encoder for frequency entry.

Ver. 2: 5 Band Heterodyne VFO with PIC frequency counter to reduce cost of the project.

Receiver :
Single conversion receiver with 10.000 M.Hz Cohn filter.
Low noise figure, 2.2 K.Hz SSB band width, 1.5 W audio O/P.

Transmitter :
RF O/P - SSB - 90 W (DC PWR I/P)
CW - 60 W (DC PWR I/P)
Built in CW side tone, CW delay, pwr meter, MOS FET Push Pull PA.

Dimensions : 8.5 X 7 X 4.5 inches

Genesis :

Being a home brewer I was hesitated to buy a commercial HF transceiver soon after getting my ticket in1988. Even my guru, late T.K.Seshandam VU2WC was not allowed me to do so. But he was kind enough to give me a set of pcb's of VWN QRP TX . I was successful to come on air with VWN QRP effectively along with L board RX on 40M. Those days are really good for HF communication. With low band noise, excellent propagation conditions we could work hours together daily on 40 M with 7 W AM signals. After that I have homebrewed RM96 and ATS1 and came on air effectively with SSB signals on 40 M. Even though there is a feeling of missing a lot of activity on other HF bands Viz 20 M, because all the above rigs are mono banders. If I want come on other band I have to construct another rig of same circuit! Then I could get a used ICOM - IC720 commercial TRX. It worked well for about 6 months and gone QRT. I just sent it to few service centers and was not able to get it repaired due to the non availability of spares for PLL & Logic boards. Then I secured one BEL524 in dead condition and able to repair it and came on air on all HAM bands with an home made out board DDS VFO. But servicing such surplus equipment is not that much easy due to their concealed and modular construction. Then I was thinking of home brewing a multi-band SSB/CW TRX using indigenous components freely available in VU land. I searched for the circuit schematics even on the internet. But ….in vain! Then I could download and made simple 40 M band SSB TRX circuits.

Using bilateral switching technique using switching IC 74HS4053 by KD1JV using NE602 and PY2OHH using TA7358. Both performed well and gave me good results on air. But the cost of NE602/SA612 is around Rs.300/- ++ and its rare availability in VU land, whereas the cost of TA7358 is Rs.15/- and freely available.

Finally, I was decided to design a multi band SSB/CW TRX using Toshiba IC TA7358 with band switching using diode switching arrangement which can give 90 W DC PWR input from 80 to 10 Mtr bands. I have incorporated CW delay and side tone for easy CW operation. I have designed pcb (measures 7 X 3.5 inches) lay out using EXP PCB design soft ware and printed the board which accommodates all stages Viz Bal. Modulator/ demodulator, RX/TX mixer, 5 bandpass filter, 6 pole Cohn filter, Tone circuit for CW, CW side tone, mike amp, audio amplifier, transmitter driver and TRX change over. I have used home made DDS VFO using up-conversion to cover 80 – 10 M bands. In other version a pre mixed heterodyne VFO has used to minimize the cost of the rig. I hope this tiny rig shall meet all the demands of an average VU ham with all its sophistication at reasonable cost.

The circuit :

The circuit is simple and strait forward. IC1 TA7358 is used as RX/TX mixer, IC2 TA7358 is used as Product detector / Bal. modulator and IC3 as a bi-lateral switch to switch both the ICs, IC1 and IC2 to particular inputs / outputs in transceiver operation by applying DC voltage in Key down / press of PTT condition.

Receiving chain :

The incoming RF signal is amplified in broad band RF amplifier and fed to the band pass filter by applying appropriate switching voltage from the band switch from front panel. The strong local signals can be attenuated by VR1 from front panel. Here the signal is filtered in the band pass filter and fed to IC1 TA7358, RX mixer through the switching IC, (IC3 sec A).

Here the incoming signal is mixed with local oscillator signal (VFO) and converted to 10 MHz IF frequency and fed to the SSB filter (6 pole 10 MHz Cohn filter) through switching IC (IC3 sec B) and fed to IC2 Product detector through switching IC (IC3 sec C). In the product detector the signal is beat with Carrier oscillator signal to get resultant audio signal which is further amplified by transistors Q2 and Q3 and sent to audio amplifier IC4 LM380 to deliver sufficient audio from speaker. The AF gain can be adjusted by the potentiometer VR3 (VOL) from front panel.

Transmitting chain :

Voice received by the condenser microphone is amplified by transistor Q4 and sent to IC2 Bal. modulator. Here carrier frequency is modulated and 10 MHz DSB signal is produced and further amplified by Q2 and fed to the SSB filter through switching IC (IC3sec C) to eliminate unwanted side band. The mike gain can be set by the preset VR2 and appropriate side band X-Tal is selected by the mode switch SW 2 from the front panel. The 10 MHz SSB signal from filter is fed to the TX mixer IC1 through switching IC (IC3 sec B) and mixed with Local oscillator signal (VFO) to get required transmitted frequency. The signal is further amplified by 2 stage broad band RF amplifier and sent to band pass filter through switching IC (IC3 sec A).

Appropriate band pass filter is selected by applying +12V to the switching diodes from the 5 way band switch SW3 from front panel or from logic out put from DDS VFO in case of using DDS VFO. Few milli volts of RF of TX signal from band pass filter is further amplified by 3stage broad band HF driver amplifier for about 1 – 1.5 W. The driver amplifier is having good linearity through 80 – 10 mts and the gain of the amplifier can be adjusted by changing the value of damping resistors R53, R54, and R57 to get adequate drive level to the final amplifier. Initially one can come on air with this 1W power and can work few stations to get reports and to align the transceiver.

VFO :

I have used DDS VFO using AD9851 along with PIC16F628 in up conversion mode to cover 80 to 10 Mtrs bands in one set and in another set a pre mixed heterodyne VFO is used to reduce the cost of the transceiver. If one wish to operate on single band, can use simple colpits oscillator such as RM96 VFO which is very stable in operation. I don’t want to describe more about VFO, because one can choose his VFO according to his taste and requirement. There are varieties of VFO circuits available in hand books or on the internet.

CW operation :

Sine wave tone around 900 K.C from an oscillator consisting of Q13 and Q14 is fed to mike amplifier through SW1, SSB/CW switch in key down condition. At the same time the side tone is amplified by IC 6 LM386 and heard in speaker LS 2. CW delay circuit provides sufficient delay for proper CW operation. The delay time can be adjusted by the preset VR7 in the base circuit of Q 12.

SSB filter :

Six x-tal Cohn filters is used for selective band width of around 2.5 K.C. Select all the six x-tals with in 100 Hz tolerance to each other to achieve proper band width and audio quality. Select carrier oscillator x-tals with + and - 1.5K.C of filter frequency for LSB and USB operation.

Final MOS FET push pull broad band amplifier :

Circuit of popular IRF 510 push pull amplifier is used for final RF amplifier which is capable of delivering of 90 W DC power input over the frequencies between 3.5 to 30 M.Hz with 1 – 1.5 W of drive. Double side glass epoxy PCB has to be used for proper operation and to achieve stability especially at higher frequencies. A large heat sink (6 X 3. 5 inches) with fins should be used. The amplifier draws 3 – 3.5 A for the maximum voice peak with 25V of operation. The O/P of the PA is connected to the SO239 antenna socket through change over relay contacts with a peace of 50 ohms thin coax. The O/P of the PA is sampled and the PWR level is indicated by VU meter mounted on front panel.

Construction :

Soon after finishing soldering all the components, check for shorts and solder bridges between the tracks. I have selected a cabinet of FLD (front loaded) tape deck available from electronic shops which measures 8.5 X 7 X 4.5 inches (Almost the size of commercial TRX). On front panel volume controller, Tuning knob, Attenuator controller, mode switch, band switch, key pad, on/off switch, jack sockets for PTT/MIC, Phones, Key and VU meter are fixed. The main board is fixed on the chassis and on the back panel the PA, SO239 antenna socket, relay and two fuse holders are fixed. Inter connections are done with multi strand hookup wire. 25 V line to PA has to be wired with thick wire used for car wiring capable of carrying 5A. All audio connections should be made with 1+2 shield cable and the RF interconnections are done with thin coax cables RG174 and RG58C/U. Shields with thin ms sheet should be provided for SSB filter, VFO and to the PA. PTT switch and microphone are housed in a small plastic box such as cell phone charger case. Condenser microphone is wrapped with few layers of soft cloth or sponge to avoid unwanted low frequencies entering into mike such as breath. 1 + 2 thick shield cable which is used for public address system should be used for microphone.

Alignment :

To align the receiver, the RF signal from signal generator or the incoming signal from antenna should be used. Both the coils for each band in the band pass filter are peaked by Teflon alignment tool for maximum signal strength. Then adjust the carrier frequencies of LSB and USB X-Tals for exact beat note. This completes the receiver alignment. To align transmitter, connect a 6 V low current bulb to the O/P of driver amplifier and apply power to TX line by pressing PTT or in key down condition. As you shout into the microphone or depressing the key, you will observe glow in the bulb. By observing brilliance of the bulb set the mike gain preset VR2 to adequate level. If necessary alter the values of damping resistors R53, R54, and R57 in driver amplifier to get adequate drive. Keep this level 20 % low in CW mode to protect the finals from thermal run away by adjusting CW level preset VR8. Now disconnect the bulb and connect the driver amplifier O/P to relay, with this one can work (QRPP) few stations and get reports initially.

Connect a milli ammeter in series with PA and apply 25 V than adjust idling current of MOSFETS to draw 40 mA (20 mA each) by adjusting potentiometers VR4 and VR5 . Then disconnect milli ammeter and connect 5A FSD ammeter and connect the driver amplifier O/P to the I/P of the PA. Now connect 50 ohms / 100W dummy load or an external antenna to the rig. By shouting into the microphone, check the current drawn by the PA. It should be 3 – 3.5 A at 25V of drain supply. If not, re-adjust the mike gain preset VR2. Too much mike gain leads distortion of transmitted signal and shift in operating frequency.

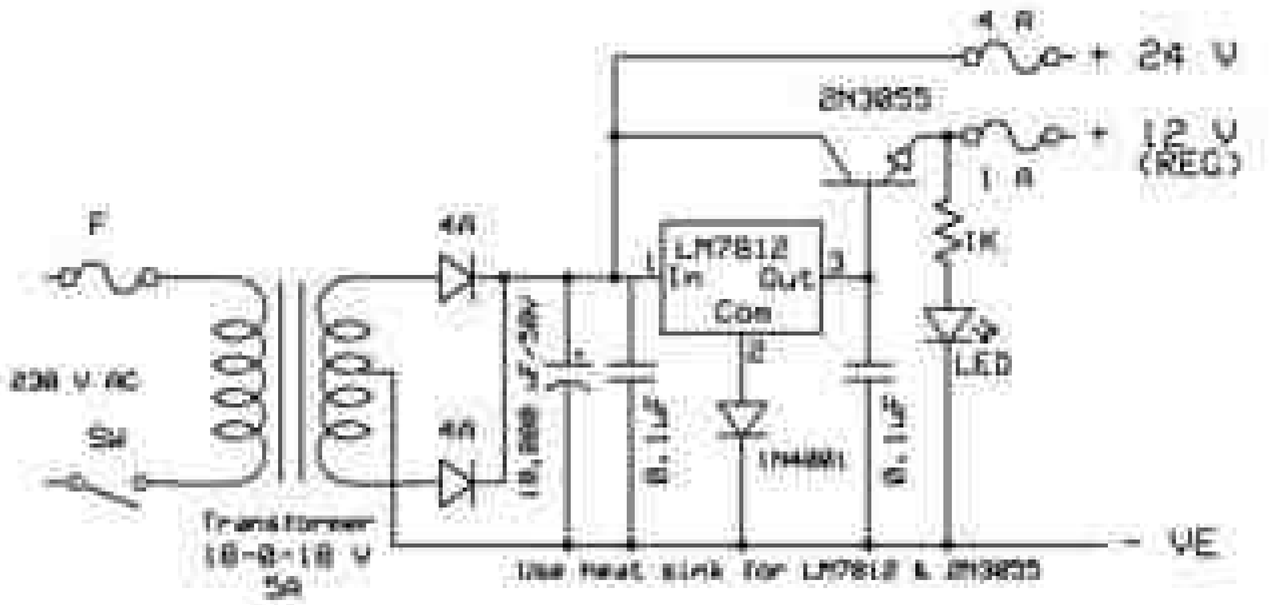
Things to remember :

1. All the resistors should be of 1 % tolerance and capacitor C6, C8, C11, C13, C16, C18, C21, C23, C26, C28, C56, C57 are styroflex to obtain stability and to avoid drift in operation. Use only 74HC4053 high speed switching IC to achieve good results especially in higher bands.
2. SSB filter should be shielded with a metal case and grounded.
3. Use 1 + 2 shield wire for audio and RG174 & RG58C/U for RF inter connections.
4. Good quality heat sinks should be used for Q8, Q9, IC5 and a large (6 X 3.5 inches) heat sink for FETs. Use heat sink compound applied both the sides of mica washers.
5. Shield VFO and the PA with small boxes made with soft ms sheet.
6. Beware of static damage while handling FETs, microcontrollers etc. Ground your soldering equipment and unplug from mains while soldering such devices.
7. Use 50 ohms/100W dummy load and carry your initial testing of your rig. Don’t shout haaaalo--- haaaalo---- halo on air and create QRM to others. Identify your self on band to get critical reports and certainly these reports shall help you to improve the performance of the rig.

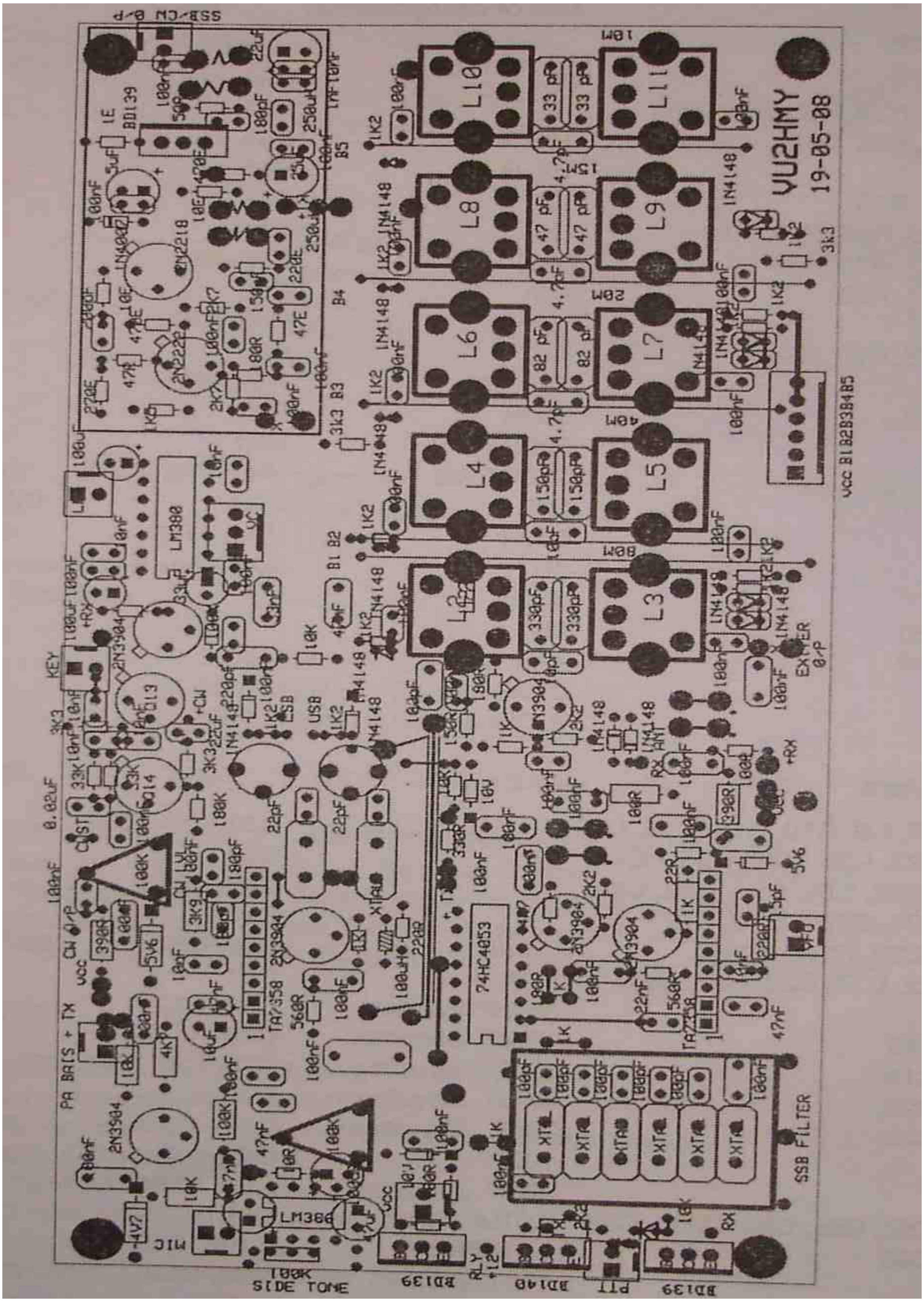
See the component Layout on the next page

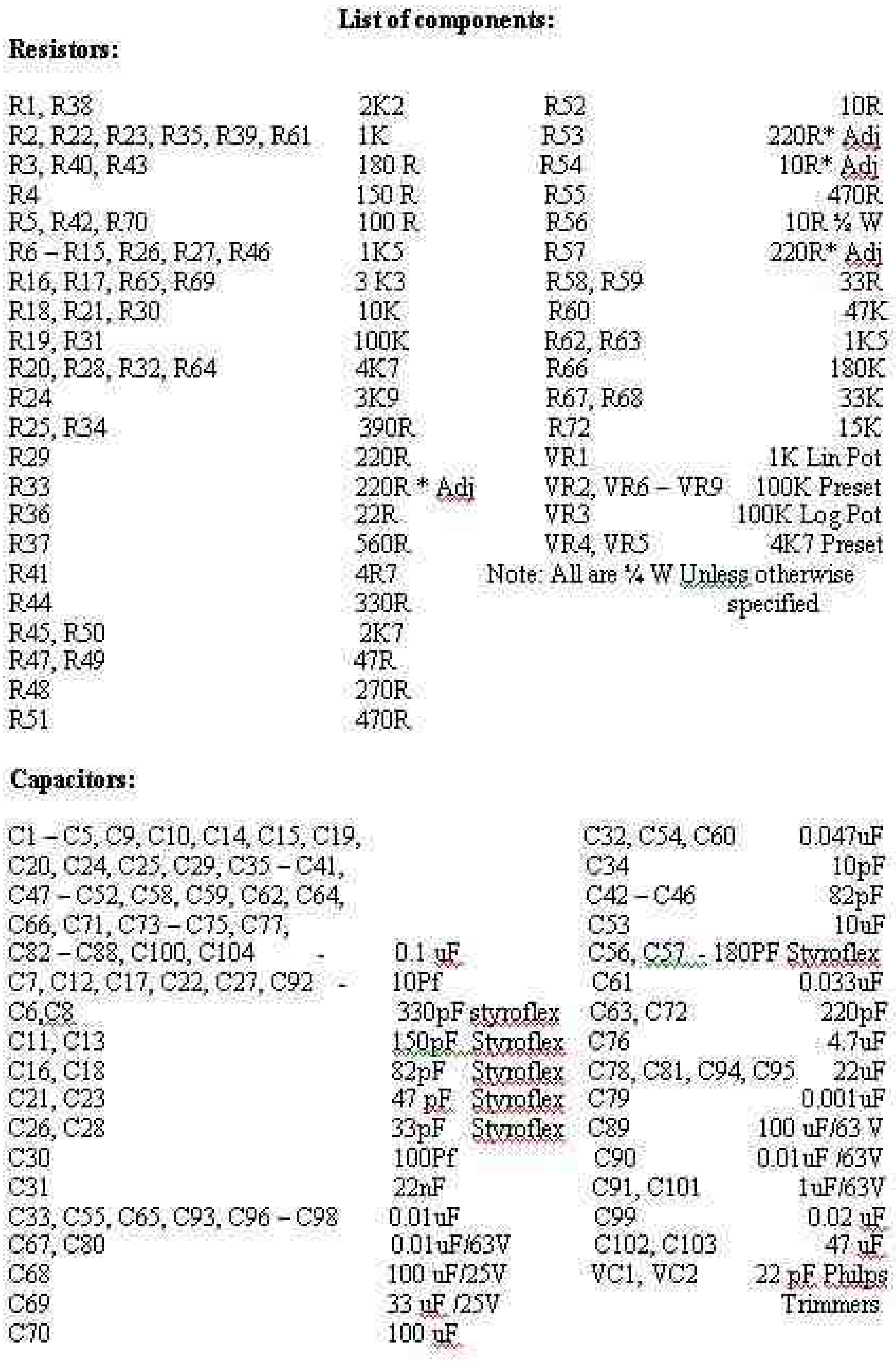
Power supply :

The exciter requires 12 V / 1 A depends upon the type of VFO / Display and PA needs 24 V / 4 Amp to get maximum RF O/P. I have got 35 W DC PWR I/P even with 12V car battery and had several contacts. The following circuit diagram can be used for PSU. Use rated fuses and good heat sinks for LM7812 and 2N3055.



Power supply unit for HMY2K8 - Multi band transceiver


VU2HMY
19-05-08
SSB/CW O/P
BD139
TA7310MF
LM380
LM386
74HC4053
TA7358
SSB FILTER
XTAL
L2
L3
L4
L5
L6
L7
L8
L9
L10
L11
80M
40M
20M
15M
10M
EXCITER O/P
VCC B1 B2 B3 B4 B5
KEY
MIC
SIDE TONE
PA BAIS + TX
CW O/P
BD140
PTT
RLY +12
VFO
2N3904
2N2218
2N2222
LSB
USB
+RX
+CW
RX
ANT



List of components:

Resistors:

R1, R38	2K2	R52	10R
R2, R22, R23, R35, R39, R61	1K	R53	220R* Adj
R3, R40, R43	180 R	R54	10R* Adj
R4	150 R	R55	470R
R5, R42, R70	100 R	R56	10R ½ W
R6 – R15, R26, R27, R46	1K5	R57	220R* Adj
R16, R17, R65, R69	3 K3	R58, R59	33R
R18, R21, R30	10K	R60	47K
R19, R31	100K	R62, R63	1K5
R20, R28, R32, R64	4K7	R66	180K
R24	3K9	R67, R68	33K
R25, R34	390R	R72	15K
R29	220R	VR1	1K Lin Pot
R33	220R * Adj	VR2, VR6 – VR9	100K Preset
R36	22R	VR3	100K Log Pot
R37	560R	VR4, VR5	4K7 Preset
R41	4R7	Note: All are ¼ W Unless otherwise specified	
R44	330R		
R45, R50	2K7		
R47, R49	47R		
R48	270R		
R51	470R		

Capacitors:

C1 – C5, C9, C10, C14, C15, C19, C20, C24, C25, C29, C35 – C41, C47 – C52, C58, C59, C62, C64, C66, C71, C73 – C75, C77, C82 – C88, C100, C104 -	0.1 uF	C32, C54, C60	0.047uF
		C34	10pF
		C42 – C46	82pF
		C53	10uF
		C56, C57	- 180PF Styroflex
C7, C12, C17, C22, C27, C92 -	10Pf	C61	0.033uF
C6,C8	330pF styroflex	C63, C72	220pF
C11, C13	150pF Styroflex	C76	4.7uF
C16, C18	82pF Styroflex	C78, C81, C94, C95	22uF
C21, C23	47 pF Styroflex	C79	0.001uF
C26, C28	33pF Styroflex	C89	100 uF/63 V
C30	100Pf	C90	0.01uF /63V
C31	22nF	C91, C101	1uF/63V
C33, C55, C65, C93, C96 – C98	0.01uF	C99	0.02 uF
C67, C80	0.01uF/63V	C102, C103	47 uF
C68	100 uF/25V	VC1, VC2	22 pF Philps Trimmers
C69	33 uF /25V		
C70	100 uF		

Diodes:

D1 – D12, D16, D17, D22, D23	1N4148
D20, D21, D24, D25	1N4001
D13, D14	6.1 V / ½ W Zenar
D18, D19	9.1 V / ½ WZenar

Transistors:

Q1	BF494	Q9	2SC1162 (or) BD139
Q2, Q5, Q6	2N3904	Q10, Q11	IRF510
Q3, Q4, Q13, Q14	BC549	Q12	BD140
Q7	2N2222A	Q15	BD139
Q8	2N3866		

IC'S:

IC1, IC2	TA7358	IC5	7805 Regulator
IC2	74HC 4053	IC6	LM386
IC4	LM380		

X-TALS:

X1 – X6	10.0000 MHz	* See text
X8	10.0015 MHz	* See text
X9	9.99850 MHz	* See text

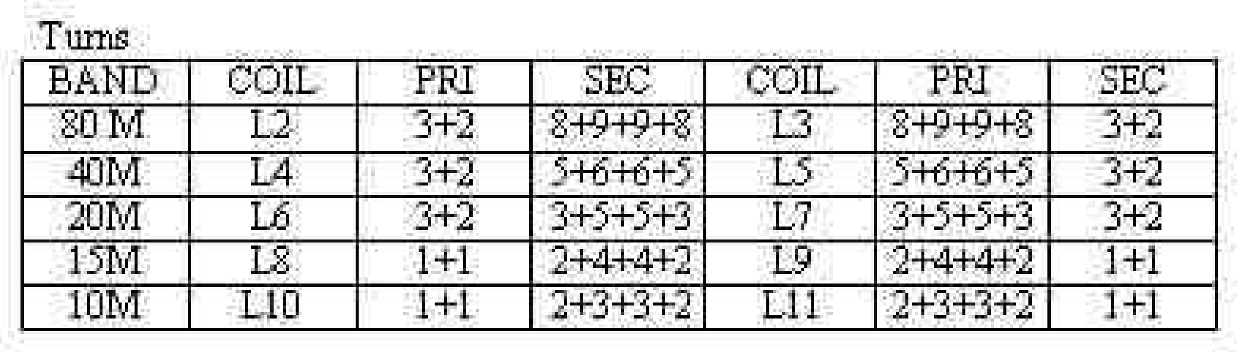
Switches:
S1 - DPDT, S2 - SPDT, S3 - 1 Pole 5 Way, S4 - SPST

Relay1 - 12V DPDT, Relay2 - 12V SPDT Mini (If DDS VFO is used)
Condenser mike – 1, LED's Green – 1, Red - 2, Speaker - 8 Ohms/ 2W - 1
Mini speaker / Piegeo element - 1, Fuse holders – 2, Fuse 1A -1, Fuse 4A – 1
6 pin RNC connector – 1, 5 mm Stereo Sockets – 2, 5mm mono Socket -1
VU meter – 1, Heat sinks for BD139, 2N3866, 7812 and 6 X 3.5 X 1 inches for PA.

Coil winding data:

L1, L13 – Bifilar, 10 turns on 10 mm torroid with 36 SWG
L12 – 50 turns on ferrite dumbbell with 45 SWG
L14 – Pri- 30 turns and Sec – 4 turns with 36 SWG on 10 mm torroid.
L15 - Pri – 6 and Sec 4 with 36 SWG.
L16, L17 – 25 turns on 10 mm torroid with 36 SWG.
L18 – Bifilar 10 turns on 12 mm torroid with 28 SWG
L19, L20 – 9 turns 6 mm dia
L21 – Bifilar 10 turns on 25mm torroid with 20 SWG
L22 – Pri – 2 turns and Sec – 3 turns on HF BALUN core formed by six 10 mm Torroid cores with 20 SWG Teflon hook up wire (used in submersible motors)

Coil winding details for Band pass filter : Slug tuned 10 mm former (Preferably with slots for split winding). 36 SWG or thinner enamel copper wire.



Turns

BAND	COIL	PRI	SEC	COIL	PRI	SEC
80 M	L2	3+2	8+9+9+8	L3	8+9+9+8	3+2
40M	L4	3+2	5+6+6+5	L5	5+6+6+5	3+2
20M	L6	3+2	3+5+5+3	L7	3+5+5+3	3+2
15M	L8	1+1	2+4+4+2	L9	2+4+4+2	1+1
10M	L10	1+1	2+3+3+2	L11	2+3+3+2	1+1

Acknowledgements :

I am thankful to VU2RVK and VU2WMJ for their great support especially monitoring my signal and giving reports. I thank VU2RM and VU2SV for their critical suggestions to improve the final performance of the rig especially on improving CW oscillator. I also thank our UV hams VU2NR, VU2VWN, VU2RM, VU2ATN, VU2IF, VU2EM, for their great contribution of designing and publishing successful homebrew rigs and kept many hams on air.

I thank VU2PAL, VU3ITI, VU2RJN, VU2AF and all net controllers who are controlling nets for year together and keeping hams active in spite of their busy schedules.

Guardian angel of my happy HAM home, my XYL Dr. Ashalatha and my harmonics Hannu and Minnu were more keen on my academic and research activities rather than domestic chores and kept me scintillating with vigour always and never allowed any situation that would dampen my enthusiasm for ham radio.

73. Happy home brewing.

QSP : http://vu2sgw.blogspot.com/

VU2SGW
All I need is my radio

Courtesy :VU2HMY, OM Sekhar.(9704269922), vu2hmy@yahoo.co.in

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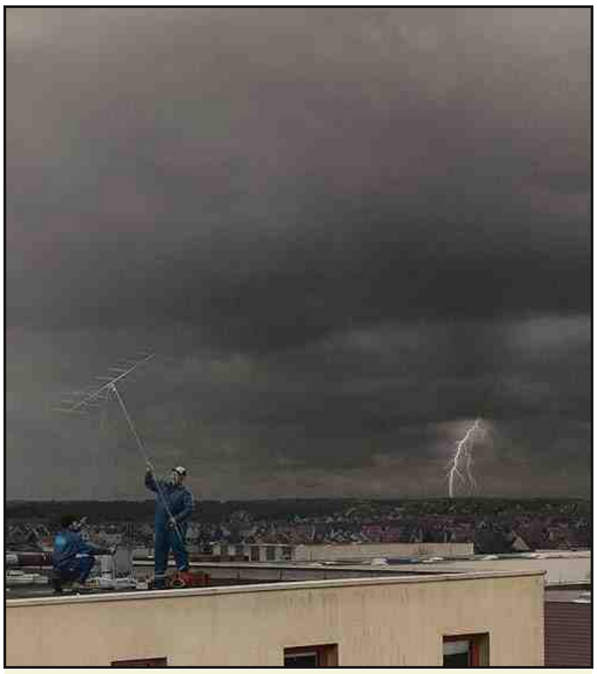
Thank you very much… and tell your friends. Best regards

COMIC'S HAM

Have some fun



Bravous Men !

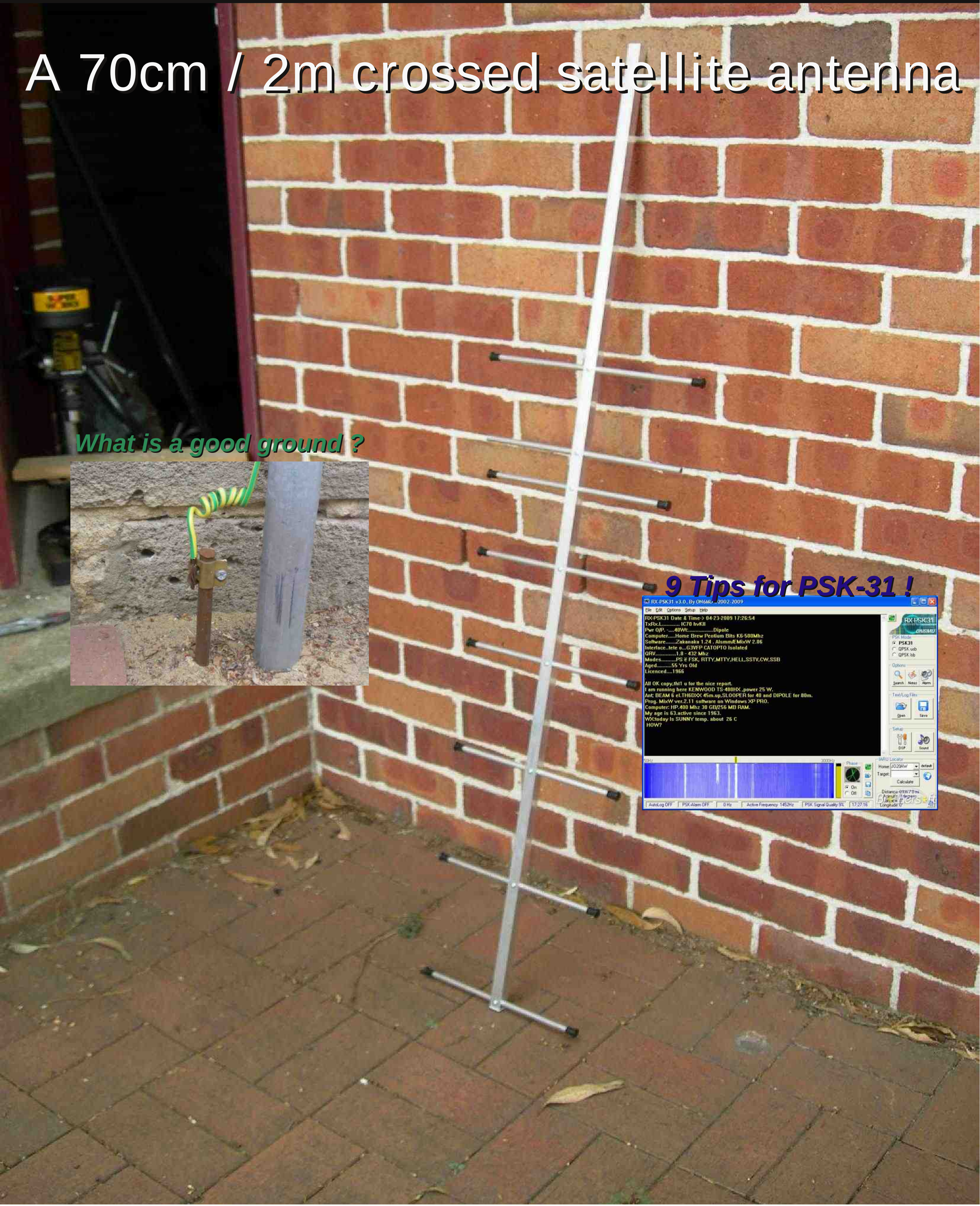
HAM-MAG

April 2010

[N.15]

Inernational HAM Magazine - 100% HAM RADIO

A 70cm / 2m crossed satellite antenna



What is a good ground ?

9 Tips for PSK-31 !

```
RX-PSK31 Date & Time-> 04-23-2009 17:26:54
TxRx.L........... IC70 hvKII
Pwr O/P. -....40Wt:................Dipole
Computer.....Home Brew Pentium Bits K6-500Mhz
Software.......Zakanaka 1.24 . Alsmm/EMixW 2.06
Interface..tete o...G3VFP CATOPTO Isolated
QRV..............1.8 - 432 Mhz
Modes..........PS ĕ FSK, RTTY,MTTY,HELL,SSTV,CW,SSB
Aged..........55 Yrs Old
Licenced....1966

All OK copy,thl1 u for the nice report.
I am running here KENWOOD TS-480HX ,power 25 W.
Ant; BEAM 6 el.TH6DXX 45m.up,SLOOPER for 40 and DIPOLE for 80m.
Prog. MixW ver.2.11 software on Windows XP PRO.
Computer: HP.400 Mhz 30 GB/256 MB RAM.
My age is 63.active since 1963.
WX:today Is SUNNY temp. about  26 C
 HOW?
```

AutoLog OFF | PSK-Alarm OFF | 0 Hz | Active Frequency 1452Hz | PSK Signal Quality 9% | 17:27:16

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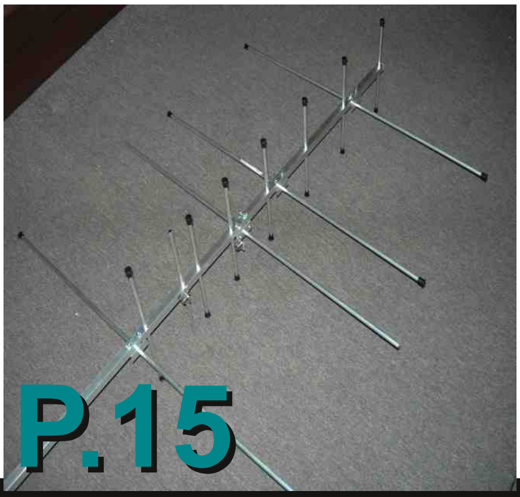

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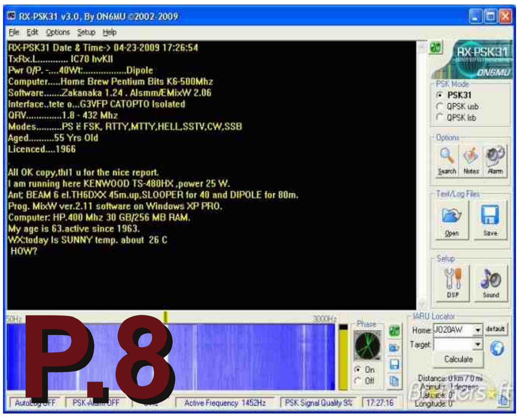

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```

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POST-IT !

The breaking News

Radio Maritime Day :
The Friendly one of old of SAINT LYS RADIO op's will take part in 4th local RADIO-MARITIME DAY of April 10, 2010 starting from 12:00 utc to April 10, 1200 utc
Created within l' AMARAD (Association of the radio operator Sailors: http://amarad.org/) this event annual is organized by the Officers Radios of the Merchant navy, Fishing, the Radios of the Navies and the former operators of the terrestrial Radio-maritime Stations of all the countries of the World
The Radiomaritime Day points out the past to us and emphasizes the present of the maritime radiocommunications to include/understand the developments in the old, modern and future successive technologies. Contacts radio operator traditional Morse but also those by aid of computers will be done on frequencies radio hams HF especially dedicated to this occasion
A special call sign TM2FFL will be used (FFL taking again the letters of St Lys Radio) the universally known station which rendered a service priceless and recognized during 50 years from 1948 to 1998 for the sailors commercial, steamers, sinners, aviation, ONG, boating pleasure and races
An opportunity of friendly meeting again between radios and ignorant , maybe an occasion of a live radio contact with a ship?
Prefered CW fréquencies 1854 3520 7020 14052 21052 28052 KHz
also DIGIMODES PSK 31 / 63 / 125 / 250 on 7047 and 14077 KHz
Hope to meet you - ***vy 73 gérard f5yd***

Ham radio heroine meets The Queen
The Royal Commonwealth Society recently invited Mrs Bharathi VU2RBI, Chief Coordinator of the National Institute of Amateur Radio (NIAR) to present a testimony on the eve of Commonwealth Observance Day.
At the event, which took place on the 8th March 2010 in Westminster Abbey, London in the presence of Her Majesty Queen of England, the Duke of Edinburgh, Prince Charles, High Commissioners of Commonwealth Countries and a group of school children etc, Mrs.Bharathi narrated her experiences in the field of Amateur Radio Communication and contribution to the society for promoting Science & Technology.
It was indeed a rare honor and privilege for an Indian women amateur radio operator to receive this invitation from among the 54 Commonwealth countries.
After the ceremony, a tea party at Royal Commonwealth Society was organised, and followed by reception at Buckingham Palace, where she met Her Majesty the Queen of England.
Mrs.Bharathi told the Queen about her involvement in the promotion of Amateur Radio Communication in India and the activities of National Institute of Amateur Radio, Hyderabad in disaster management over the last three decades.
The Royal Commonwealth Foundation, London has shown great interest in promoting Amateur Radio Communication as a part of disaster management in the Commonwealth Nations.
Read more at: http://www.niar.org/VU2RBI%20-Commonwealth%20day.pdf
(Info from G4TUT)

A to D conversion

By KA5DON

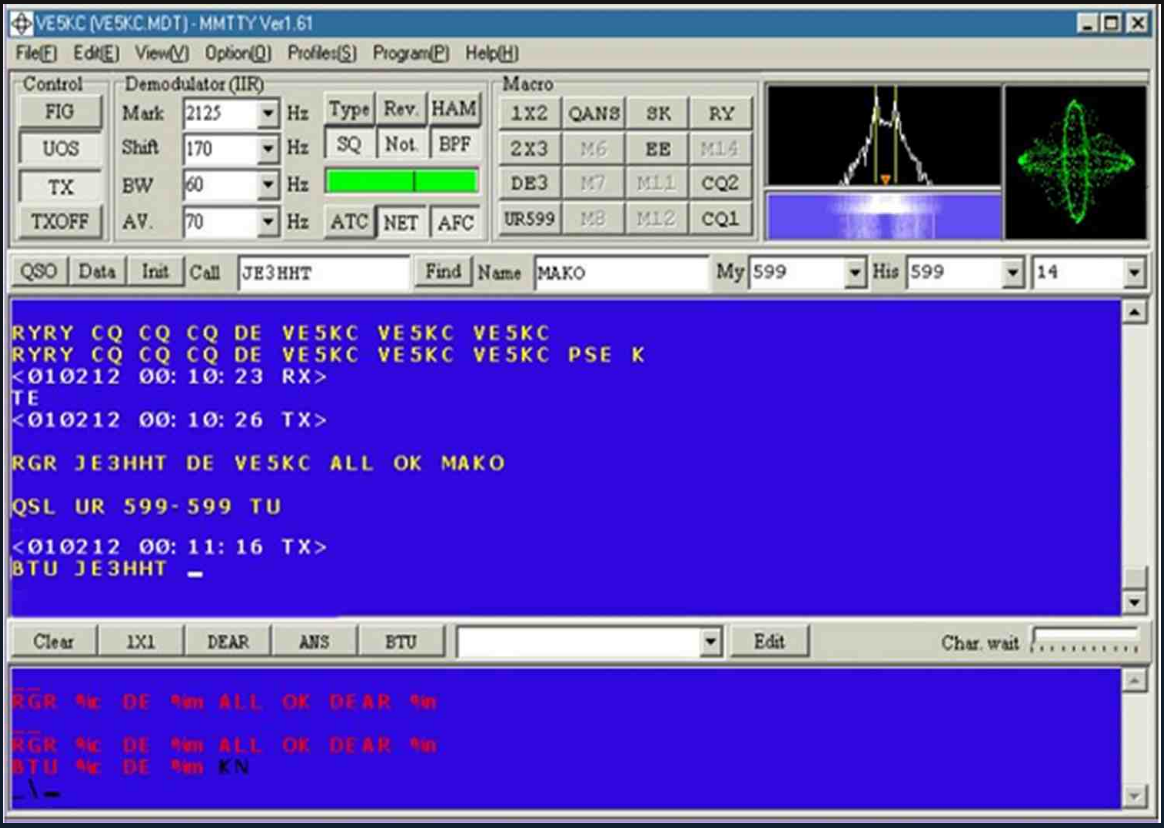
No, this isn't about the analog to digital converters or breakout boxes as some used to be called. It is trying, learning and conquering the digital modes, sometimes not new, but new to me.
I have had to learn a number of lessons, some multiple times, to become what I call successful at some digital modes. Success my me is measured by that first QSO. But, one of the lessons is that just because it worked once, doesn't mean that it will always work, or even work the next time you turn the rig/computer on.

While the rig is important, it is perhaps the least important. You have the radio which I won't discuss, the interface,of which I will discuss a few of the commercial ones, and the most important aspect of the discussion will be the software. There I will discuss some of the single mode software, some multi mode software, and then some of the just about everything there is software.

I know many of the different email reflectors argue that CW and green key RTTY are digital and I will let them have that argument. I will be talking about computer generated, software formed modes of operation. There are tens of thousands of amateur radio operators out there with far more experience, understanding and skills at the various modes than I am and certainly do not present myself as an expert, only as an operator.

Originally licensed in 1978 in Alaska, I slowly acquired the communication skills of CW. In 1979, I started on my digital journey with the DGM electronics keyboard generated CW/RTTY modes. While I had a KSR 28 and a 28RO (receive only), I became more dependent on the DGM. In 1980, we sent over 300 ARRL Mothers Day Messages using the DGM. When we moved to Michigan in late 1980, the KSR stayed in Alaska, but the RO and DGM went with me to Michigan. In 1983 we moved to Japan and for 3 years, all the equipment stayed in storage in northern Wisconsin. Not the best environment for electronics. In 2003 I cought the bug again and after 7 months of studying the new, digital, multi-mode radios, I bought a TS-2000x. While I was learning about the different radio's, I started learning about the "new" modes of PSK and digital RTTY. I began downloading every piece of software I could find (that was free) and began the learning process.

Since I I understood the concept of CW (an electrical tone turned on and off) and RTTY (single tones shifted 170Hz), I started with them. I had also done my research on interfaces. I had looked at and focused my search on the lower end of the price scale (out of necessity) and narrowed the field down to the Buxcomm or the West Mountain Radio Rigblaster Plus. I decided on the RigBlaster Plus and when it came, I stared at the cables, jumpers, and connections. The instruction book was helpful, but the picture diagram was my source of success. I now had a radio, and interface that I had tested and when I keyed the radio, the PTT light came on the interface. Now for the software. I had looked at MMTTY and HamScope. My choice became MMTTY for the single functionality of RTTY and the more than adequate help files and willingness to help new users on the email reflectors. MMTTY BY JE3HHT - Makoto Mori became my first challenge.



Mark 2125 Hz
Shift 170 Hz
BW 60 Hz
AV. 70 Hz

Call JE3HHT
Name MAKO
My 599
His 599
14

```
RYRY CQ CQ CQ DE VE5KC VE5KC VE5KC
RYRY CQ CQ CQ DE VE5KC VE5KC VE5KC PSE K
<010212 00:10:23 RX>
TE
<010212 00:10:26 TX>

RGR JE3HHT DE VE5KC ALL OK MAKO

QSL UR 599-599 TU

<010212 00:11:16 TX>
BTU JE3HHT _
```

```
RGR %c DE %m ALL OK DEAR %n

RGR %c DE %m ALL OK DEAR %n
BTU %c DE %m KN
_\_
```

MMTTY has it all, clear, crisp, easily understood layout of the software. The Upper Right corner has the elliptical tuning scope, to the right are the band scope and waterfall. Center area holds the Macro's which were easy to set up. Just right click and enter the text you want for that key. Moving further to the left are some software controls for defining shift and whether you have to have the signal reversed (as Kenwood does). If someone tells you are upside down, I have learned to push the REV key. The middle area is the received portion, and the lower portion, the transmit area.

It was really easy to tune a RTTY signal. First, tune the radio frequency so the waterfall/spectrum lines are over the 2 RTTY lines, then fine adjust so the twin elliptical circles look like the ones in the picture above. The received text will magically decode in the upper text window.
Setting the macro keys is just as easy. Right click on any of them and enter your text. There are of course shortcuts and embedded text to enter contest numbers.

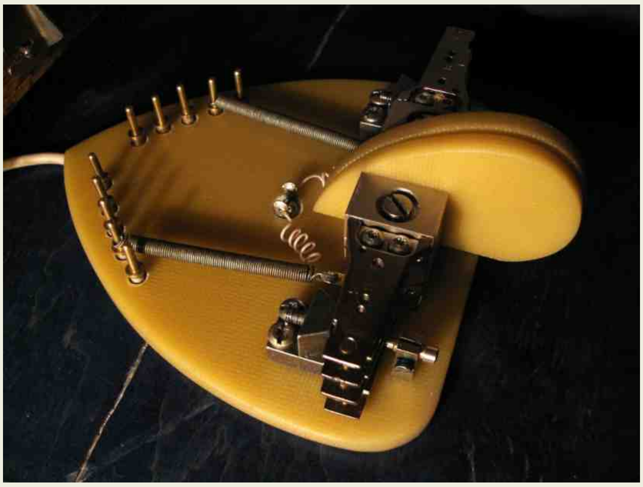
Within a week I was entering a RTTY contest. MMTTY has it's own logging program, so I used it. Again, the settings inside the software itself becomes paramount and must be set specific to each interface and radio. The software itself can be found at http://mmhamsoft.amateur-radio.ca/pages/mmtty.php. Don Hill AA5AU is the King of RTTY and his web site has the finest RTTY tutorial there is. You can find detailed information about downloading, setting up and operating MMTTY from the expert at: http://www.aa5au.com/rtty.html.

MMTTY, being my first computer digital mode has fueled my interest because after a few stumbles (make sure you read the section on using EXTFSK) I was able to begin my string of successes. My next article will be about my first multi-mode Software MixW.

Till then, 73, Don KA5DON

Second Life of Dead MFM Hard Drives - Iambic Paddle

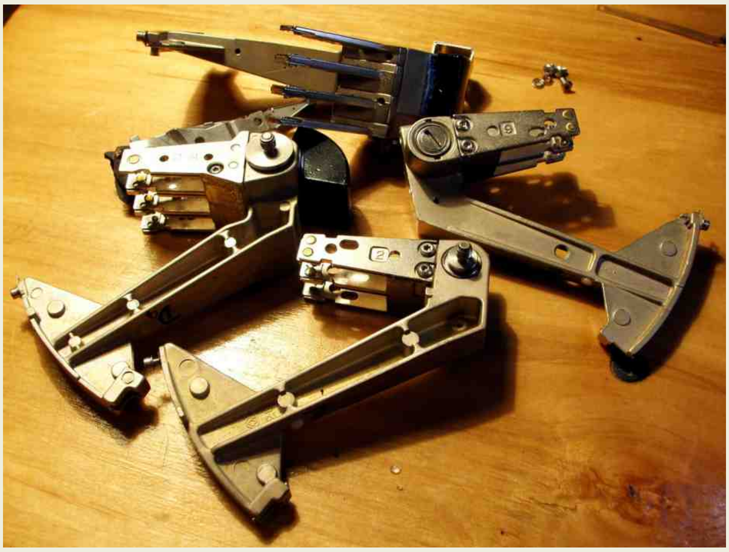
By UU1CC



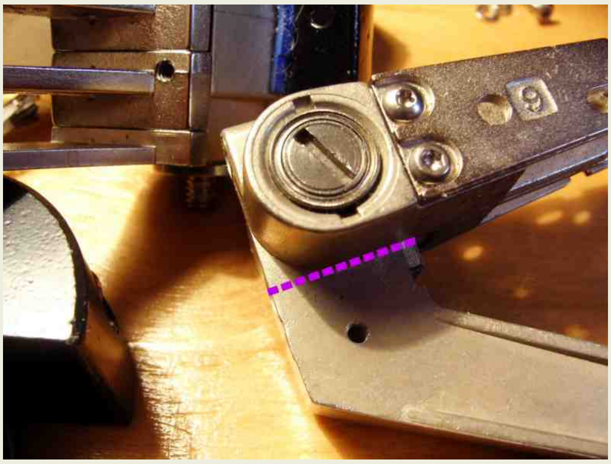
Just finished my first in life "Instructable" at the D.I.Y. host site instructables. It is short sketch about Iambic Paddle which has been made using a spare parts from the dead MFM HDD drive. I got a lot of fun posting to that site, and I think that it should be good idea to post more detailed article here. Frankly, this homebrew project is not a Pure Glowing Bug, but I'm not so puristic today.
Well, let me explain - why I decided to use HDD heads as a levers in this Iambic Paddle Project. For many years I've collected computer spare parts for no reason, just because I have a big, nearly endless Junk Box and it was impossible to me to throw such high-tech toys in the trash. But one morning I found that my Junk Box is full and The Time of Trash Bags has come. It was a hard work, but under the tons of debris I found the treasure - my first homemade Z80 Sinclair Spectrum and five old 5 inch MFM hard drives from my second computer.

As you remember, these drives was a big rounded shaped boxes, ideal as a chassis for any homemade electronic projects, tube glowbugs as well as solid state stuff. Another interesting things - powerful electromotor and magnetic cylinders itself, thick shiny discs which are so usable as a dial or scale part, looked much better than a CD in this role. And last but not least - yes, precision bearings on the easy to mount axis in magnetic head's block. What a beautiful hardware! When I opened and totally disassembled these hard drives, I realized that I literally had a very new telegraph key, usual one lever, dual lever iambic paddle or even straight key - not so important, it is easy to make any kind of telegraph manipulator using these nice spare parts. Watch this **<video>** demonstrating a working Iambic Paddle and take a look at step by step constructing process here:

Step 1: Extracting Heads from Dead Drives

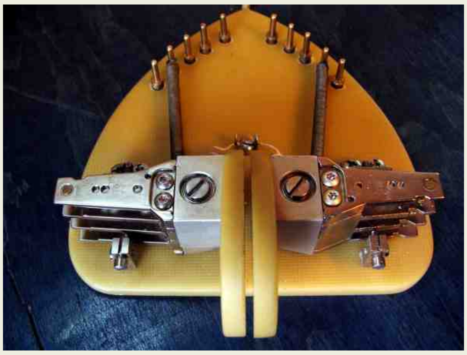


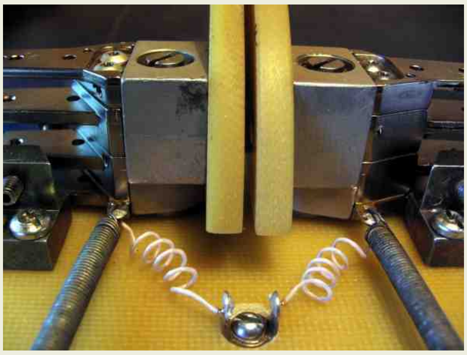
Step 2: Cut off fag end

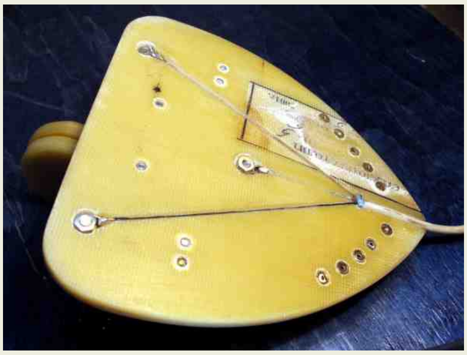


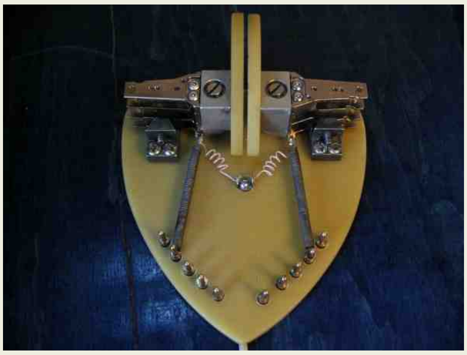
Step 3: Breadboarding and making the plastic base

Step 4: Assembly and assembled views









And you are ready for calling CQ...
Best 73's ! UU1CC

9 Tips for the PSK31 Digital Mode

by Dan

PSK31 is arguably the most popular amateur radio digital mode. It utilized phase-shift-keying to provide robust, narrow signal width communications, and requires very little power to QSO the world!

1 - Use the center of your waterfall. Testing will show that your transmit (TX) and receive (RX) will be strongest there. Don't blindly use 1000Hz tone or strictly follow the VFO 'set it and forget it' concept. You can easily lose 20% or more of your power on each edge of your pass band. Pass band centering of the signal will give the best results of both RX and TX.

2 - There's no need to have the waterfall streaking bright red. Set your rig's volume to a low level (less than 25% of max) and adjust your waterfall and soundcard levels for a good contrast. Do not overdrive your soundcard! Get the background noise and the transmit trace well defined and separate. Keep in mind, how your waterfall looks does not impact decoding, but it is harder to work it if you can't see it.

3 - Use UPPER CASE characters sparingly. Lower case text in PSK31 varicode transmits fewer bits of data, thus you'll increase transmit speed and improve the likelihood of proper decoding on the other end. For example, the difference of a lowercase e and an uppercase E is five times more bits!
(e=11 vs. E=1101101101)

4 - Enable your RF Attenuation and increase the volume. This helps keep a strong signal from wiping out the weaker ones. Attenuation will probably be around 20 dB, but by dropping the noise level, the signal readability improves. AGC (auto gain control) does nothing for a weak signal; it only levels the louder ones.

5 - Use your digital modes software, or a program like Spectrogram, to see what you noise level is with the radio off. This will give you an idea of how 'clean' your soundcard is. Typically, onboard (built-in) sound hardware (as found in most 'mainstream' computers like Dell or HP) does not have a signal-to-noise ratio as good as an inexpensive (less than $50) separate soundcard. When purchasing a soundcard, look for something with over 100 signal-to-noise ratio in the specifications.

6 - Consider dual monitors (most modern video cards have two jacks). This allows you to have the waterfall or spectrum display on one screen, and your logger, text window, etc. on the other. It makes a huge difference in speed and ease-ofuse when you don't have to swap between screens or use smaller windows for your QSO.

7 - Keep your ALC reading during transmit to as close to zero as possible. This will keep your signal clean and your IMD at a good level (-20s or better is ideal). Your power output will drop, but there's no need to 'smoke' the transmit level. PSK31 is about an 80% duty cycle. Even with a full duty cycle rig, it still needs to dissipate heat! Besides, 20 watts more makes little difference. Output of around 50W is enough to work the world, and your fellow CQs will appreciate the courtesy. Also be sure your voice processor is NOT enabling when using digital modes.

8 - Ask for an RSQ (readability, strength, quality) report! When in a QSO, send just a tone and ask for your IMD and a report on how your trace looks. This will give you a better idea of adjustments needed.

9 - There are hundreds of digital modes. To get started or to learn more about the most common ones, acquire ARRL’s ‘HF digital handbook’ by Steve Ford, WB8IMY. For the technical types, be sure to snag Roland Prosch’s (DF3LZ) ‘Technical Handbook for Radio Monitoring’.

- ‘BONUS’ TIP:

Try 30 meters PSK31! It’s a robust band, offering the best of 20M and 40M. It’s a small segment of a no contesting band. Used only for digital modes and CW. Be sure to operate within your privileges. PSK31 can typically be found around 10.140.

DEFINITIONS of TERMS USED:

AGC (Auto Gain Control): The ability to reduce signal strength orn-the-fly (fast or slow), giving you a more level audio reception on stronger stations.

ALC (Auto Level Control): A voltage adjustment or reading, indicating your TX signal levels . ALC is designed to control voice and carrier signal levels, not digital modes. Typically, if the ALC meter moves, then the microphone gain is too high.

Signal-to-noise (S/N) ratio: A comparison of the signal levels to the relative noise level. Ideally, a perfect signal would have no noise, but realistically, you’ll want a S/N ratio well within the tolerances of the mode you’re using. PSK31 tolerates about a 10dB S/N ratio.

dB: Sound level, or ‘decibels’ are used to measure the relative strength of a signal.

Digital Mode: A converted signal transmitted from your radio to be ‘de-converted’ by the receiving station. Much like a computer modem, a digital feed is converted to analog, sent across a transmission medium, then reconverted back to a readable signal at the receiving station.

Duty cycle: The total time of actual transmission levels. When your radio is transmitting, there’s an on/off process that takes place. Transmitting at a 100% duty-cycle indicates that your are using 100% of your radio’s power, 100% of the time. Better radios will allow this, while others will eventually fail under the pressure of such a load.

IMD (Intermodulation Distortion): The ratio, in dB, used to determine the quality of your transmission. Unwanted ‘products’ or signals reduces IMD levels. More power does not mean better copy!

Overdrive: Turning the volume of your radio up so high that you risk damage to the soundcard, or cause signal ‘splatter’. Similar to maintaining your ALC levels.

Pass band: The range that your transceiver can receive when on a single frequency. Typically around 3000Hz wide.

PSK (Phase Shift Keying): A form of modulation that shifts the transmit signal in order to carry more information. PSK31: is a digital mode created in the 1990’s by Peter Martinez (G3PLX) that is about 31Hz wide on your waterfall.

RF (Radio Frequency) Attenuation: A suppression of signals received. You’ll often see a noise level reduction, with a minor sacrifice to the desired signal reception. Check your radio’s manual on how to adjust it.

RSQ (Readability, Strength, Quality): Much like the familiar ’RST’ reports, using a 599-type reporting scheme. Instead of ‘Tone’ (Morse Code), use ’Quality’. 95%+ readable, with a very strong waterfall trace, and a clean (no splatter) signal would warrant a 599 report.

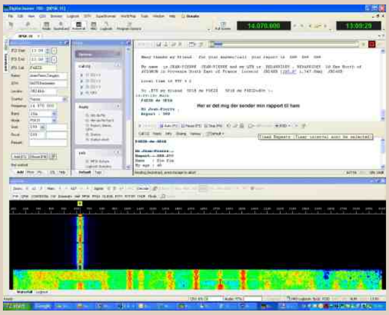
Soundcard: A piece of hardware in your computer that produces sound, and often allows input, as with a microphone.

VFO (Variable Frequency Oscillator): It’s that knob you use to change frequencies on your radio.

Varicode: A streamlined coding system that allows nearly whatever your computer keyboard can type tobe transmitted in shorter lengths.

Waterfall: A visual display of radio signals (and other sounds) found on the tuned frequency.

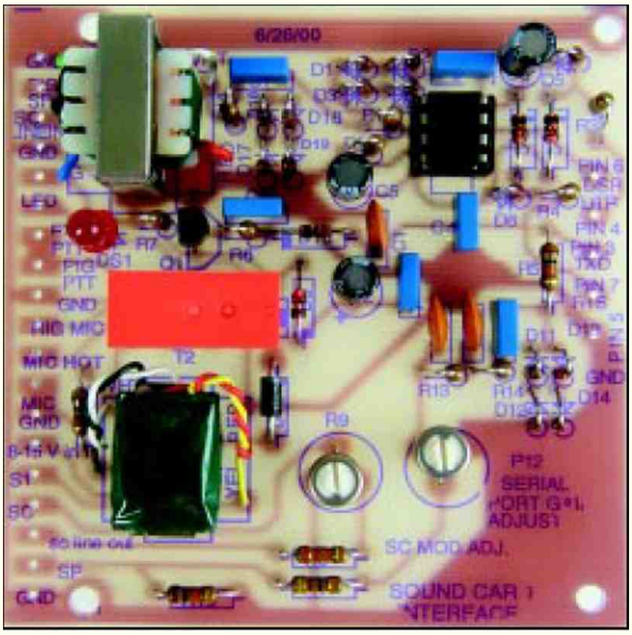
Best 73's... Dan



Her er det mig der sender min rapport til ham

A Flexible Digital-Mode Interface
By Jim, N9ART

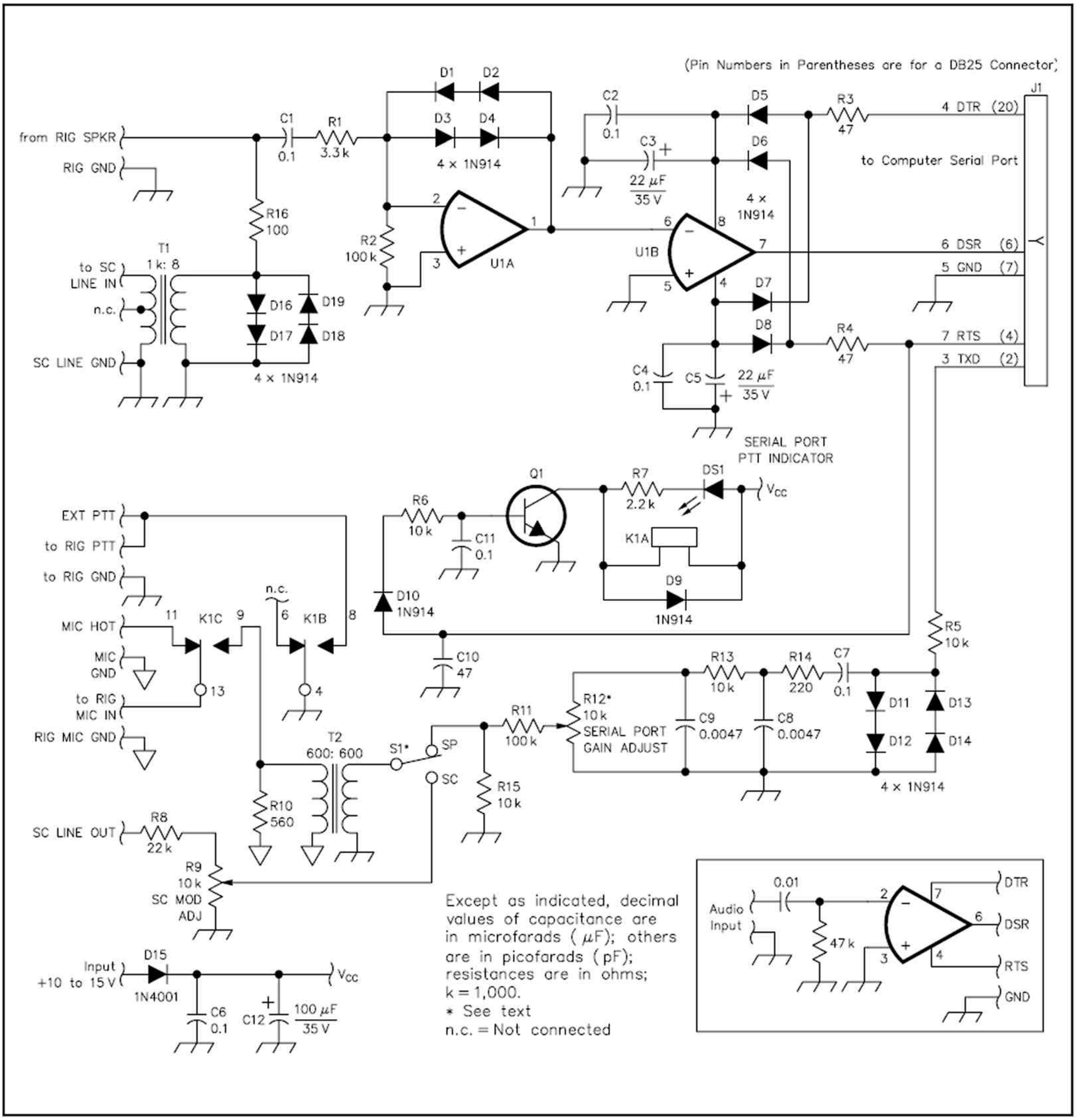
***One interface, all the software—here's how to do it simplyand inexpensively*.**



On seemed to be reserved for those who possessed the means to purchase and operate sometimes large—and nearly always expensive—equipment. This began to change in the early '90s when software written for home computers began to replace the expensive hardware. Programs such as HamComm1 allow operation of CW, RTTY and some 'TOR modes requiring only a few "junk-box" components to fabricate a simple comparator modem. JVFAX2 uses the same modem to give us SSTV with amazing results. These early DOSbased programs were followed by variations on the same theme, but eventually gave way to Windows-based software. Programmers writing software for Windows didn't want to continue with the sometimes- inconsistent performance of the simple comparator interfaces, so they looked to using the sound cards with which most computers are equipped these days. A sound card can do most of the signal encoding and decoding required for these modes. Not only does the sound card do a fine job in the DSP department, it eliminates the need for some hardware. All that's necessary now is to deliver the transceiver audio to the sound card's input and send the sound card's output back to the rig's mic or accessory input. A means of keying the rig helps, too.3 Initially, I hesitated to try any of the newer SSTV programs because I didn't want to tear apart my reliable comparatormodem setup to reconfigure the audio I/Os to my computer's sound card. I wanted to continue to use the DOS-based programs, but also wanted to enjoy the new modes such as PSK314 and MT635 with software running under Windows. Soon I tired of manually connecting and disconnecting wires to the rig. I realized then that I needed an interface that would allow me to use the comparator modem for DOS applications and use the same I/Os for the sound card programs.

Circuit Description

The interface I designed is shown in *Figure 1*. The comparator section employs a dual op amp (U1) operating as a limiting amplifier with full free-run amplification. This creates the required rectangular waves at an RS-232-compatible level necessary to run the DOS-based SSTV and FAX programs. The four diodes (D1-D4) in the feedback loop of U1A soft-limit the waveform, delivering a relatively symmetrical rectangular wave with rounded tops and bottoms limiting at about ±2.8 V. U1B is another maximum-gain stage that ensures correct amplitude and rectangular waveform symmetry are presented to the serial port at J1. Open-loop gain in this stage eliminates the effects of the soft limiting at U1A. Op-amp operating voltage is supplied by the computer's serial port via the DTR and RTS lines. Diode matrix D5-D8 (a bridge circuit) ensures proper voltage polarity at the appropriate op-amp pins regardless of how the RTS and DTR lines are defined by the various programs. To perform at their best, SSTV and FAX programs such as EZ-SSTV, JV-FAX, MSCAN6 and EasyFAX7 require only a basic HamComm-style modem.



Except as indicated, decimal values of capacitance are in microfarads (µF); others are in picofarads (pF); resistances are in ohms; k = 1,000.
* See text
n.c. = Not connected

Figure 1—Schematic of the flexible digital-mode interface. Unless otherwise specified, resistors are ¼-W, 5%-tolerance carbon-composition or metal-film units. RS part numbers in parentheses are RadioShack. (Note: All of the resistors used in this project can be found in assortment RS 271-312; specific part numbers are also given.) Equivalent parts can be substituted; n.c. indicates no connection. J1 pin numbers are for a DB9 connector; pin numbers in parentheses apply to a DB25 connector. The inset shows a basic interface referred to in the text. Note that a different ground symbol is used for the connections labeled MIC HOT, MIC GND, the bottom end of R10 and the primary of T2. These four connections are purposely isolated from the other grounds (see text) and should remain isolated from them and from the enclosure if a metal one is used. The other grounds are connected to a common bus and the FAR Circuits PC-board mounting pads and can be connected to the enclosure.

C1, C2, C4, C6, C7, C11—0.1 µF (RS 272-135)
C3, C5—22 µF, 35 V electrolytic (RS 272-1026)
C8, C9—0.0047 µF (RS 272-130)
C10—47 pF (RS 272-121)
C12—100 µF, 35 V (RS 272-1028)
D1-D14, D16-D19—1N914 (RS 276-1122, package of 10)
D15—1N4001 (RS 276-1101)
DS1—LED from assortment package (RS 276-1622)
K1—DPDT 12-V dc PC-mount relay (RS 275-249)
Q1—2N2222 (RS 276-1617)
R1—3.3 kΩ (RS 271-1328)
R2, R11—100 kΩ (RS 271-1347)
R3, R4—47 Ω (RS 271-312)
R5, R6, R13, R15—10 kΩ (RS 271-1335)
R7—2.2 kΩ (RS 271-1325)
R8—22 kΩ (RS 271-1339)
R9, R12—10-kΩ PC-mount pot (RS 271-282) or use optional 10-kΩ pot with SPDT switch (RS 271-215); see text.
R10—560 Ω (RS 271-312)
R14—220 Ω (RS 271-1313)
R16—100 Ω (RS 271-1311)
T1—Audio-output transformer (RS 273-1380)
T2—1:1 isolation transformer (RS 273-1374)
U1—TL082 dual op amp (RS 276-1715)

A HamComm modem can be as simple as a single op-amp stage, a decoupling capacitor driving the inverting input and a resistor to ground (see the inset of Figure 1). These programs can use such a modest interface because they determine the audio-input frequency by counting waveform zero crossings. A few other SSTV programs, such as GSH-PC,8 rely heavily on the symmetry and accuracy of the rectangular wave presented to the serial-port handshake line (DSR) to produce their best picture quality. Waveform asymmetry and inaccuracy can be caused by a number of variables: A computer's DTR and RTS lines are rarely balanced (ie, having equal voltages of opposite polarity) and op amps may exhibit a large dc-offset error.

This circuit, however, fulfills the requirements of all the DOS-based programs mentioned here by providing a very symmetrical waveform at proper RS-232 levels. Q1 is driven by the serial port RTS line via D10 and R6. K1A is energized when Q1 turns on. A PTT switch action is provided by K1B when the software signals transmit and toggles the RTS line positive.

K1C selects the interface's modulating source: the mic, sound card or TxD line of the computer's serial port. When RTS is negative, the mic is selected. When RTS is positive, the PTT line is actuated and either the sound card or serial port is selected. A PTT indicator (optional) is provided by DS1 at the collector of Q1. The modulating source of the interface is selected by S1. In the SP position, that source is the computer's serial port. The SC position selects the sound card LINE output. R8 and pot R9 (SC MOD ADJ) attenuate the sound card's LINE output. T2 isolates the interface and computer grounds from the rig's mic ground to minimize RFI problems. DOS-based digital-mode software provides modulating tones in the form of square waves at the serial port's TxD line. A brute-force low-pass filter comprised of C7, R14, C8, R13 and C9 rolls off much of the square waves to present a waveform more like a sine wave to the rig's modulator; the rig's filtering does the rest of the job. R5 and D11-D14 form a limiter stage that maintains the output of the serial port's TxD line at around ±3 V. (This circuit is not required for the interface to function, however, and is discussed later.) C6 and C12 filter the external dc source. D15 protects the circuit from an incorrectly polarized power-supply input. R16 and D16 through D19 act as a limiting stage to protect the sound card input from excessively high audio input.

Construction

Component values and types are such that a single trip to RadioShack should be all that's necessary if you can't find the parts you need in your junk-box or that of a friend. The FAR Circuits PC board9 makes building this project easy. Duplicate holes are provided on the PC board for various connections. EXT PTT can be used if an additional PTT line output is needed. Using a PC-mounted control at R12 to adjust the serial-port modulation level is adequate. Once this level is set, there is seldom any need for readjustment. On the other hand, the sound card line output might require more frequent adjustment if multiple Windows-based sound card programs are used; level requirements might vary from one program to another. Adjusting the sound card's mixer panel .WAV output is usually an acceptable means to ensure proper modulation level from the sound card's LINE output.

This could be a minor inconvenience, but I found an excellent resolution to this dilemma in a normally stocked item at RadioShack: a panel-mounted 10-kW control with a SPDT switch (RS 271-215). Using this control for R12 instead of a PC-mount pot allows not only line-output adjustment, but doubles as the modulation-source selection switch (S1). Rotating the control fully counterclockwise to the OFF position selects the serial port (SP) as the modulating source.

Rotating the control clockwise and turning the switch to its ON position selects the sound card's LINE output (SC) as the modulation source. If frequent sound card LINE outputlevel adjustment is not necessary, the PCboard-mounted control should be adequate for your application.

An external 10 to 15-V dc source applied via D15 is required to power the relay and the optional serial port PTT LED, DS1. If the optional PTT indicator circuit is not required, omit R7 and DS1.

Component-Value Considerations

A few component values might have to be changed to accommodate your equipment's level requirements. The TxD data-leveling circuitry (R5, D11-D14) in conjunction with the insertion losses of the low-pass filter (C7, C8, C9, R13, R14) and the attenuation provided by R11, R12 and R15 sufficiently reduce the amplitude of the TxD output to microphone level. This level reduction might be excessive for some applications. If you find that your rig can't be modulated adequately, remove D11 through D14 and replace R5 with a wire jumper. Adjust R12 to see if the level has increased sufficiently to properly modulate your rig. If the level is still not high enough, you can reduce the value of R11, but not below a value of 1 kW. Similarly, R8's value may need altering to ensure proper modulation when the computer's sound card is used as the modulation source.

R8 is the only component in this part of the circuit whose value can be modified, as your computer's audio-mixer controls should be used to set these levels.

Alignment

With all components interconnected and a dummy load attached to your rig, rotate S1 to the SP position. Ensure R12 is fully counterclockwise (minimum resistance). Set your rig's microphone-level control as you normally would. Select a DOS-based SSTV program and load a picture. From within the program, select transmit. The rig should key, but should not be modulating. Slowly adjust R12 clockwise until the modulation peaks just enter the ALC region of your rig's meter. If the modulation level is high as you start to open R12, additional attenuation is required.

Select a value for R11 that allows full modulation at about mid-rotation of R12. If R12 is full clockwise (minimum resistance) and your rig lacks full modulation, try one of the steps mentioned earlier to increase the level through the TxD low-pass filter to your rig's modulating point. Unkey the transmitter.

A similar procedure is used to adjust R9. Place S1 in the SC position to select the sound card as the modulating source. Use the sound card mixer panel to adjust the .WAV output level.

Set R9 fully counterclockwise (minimum). Select a sound card program and set it up to transmit. If you choose an SSTV program for this adjustment, load a picture. From within the program, select transmit.

The rig should key, but should not be modulated. Slowly rotate R9 clockwise and note how the rig begins to modulate. If the modulation level is high as you start to open R9, increase the value of R8 or decrease the sound card's .WAV output level. Select R8's value such that full modulation is realized somewhere around midposition of R9. On the other hand, if the incoming audio level is insufficient to properly modulate the rig with R9 at minimum resistance, decrease the value of R8.

You should easily find a value for R8 that, in conjunction with adjustment of the .WAV output of your computer's sound card mixer panel, results in proper modulation. No provisions have been made to adjust the rig's audio-output level at the interface.

The input of the comparator (U1A and U1B) can handle speaker audio levels ranging from barely audible to full-room volume.

If a fixed audio-level point (such as the output at an accessory connector) is connected to this point, that should do. Use the sound card mixer LINE INPUT control to control the audio level fed to the sound card. Some SSTV programs provide a control for this audio source also.

PC-Board Pin-Out IDs

Most of the connections to the PC board are obvious, but I thought it might be a good idea to identify them here as well. The labels near the PC-board interconnection pads identify lines from the off-board source.

- ***RIG SPKR***—Connection your rig's SPEAKER or LINE output (high side) to this pad.
- ***SC LINE IN***—Connects to the computer's sound card LINE INPUT jack (high side).
- ***RIG GND, SC LINE GND and PTT GND***— Electrically, these are all the same point on the interface. These points connect from the interface to the rig or the sound card as indicated in the labeling.

- ***EXT PTT***—This pad is connected in parallel with the relay PTT contacts. This is convenient if you have a secondary PTT actuator such as a foot switch or a grounding switch on the microphone.
- ***MIC HOT***—If you're using the rig's mic input as the modulating point for the interface and the microphone, connect your mic to this pad and the mic ground to MIC GND on the interface.
- ***RIG MIC IN***—From the rig's modulating input point; either the mic connector, or the accessory jack
- ***LINE input***. If you're using your rig's accessory connector as the modulation input to your transceiver, connecting a microphone to the interface's MIC HOT pad (as described earlier) isn't necessary as the mic is likely connected directly to the rig's mic connector.
- ***SC LINE OUT***—Input from the sound card LINE OUTPUT jack (high side).
- ***+10 to +15 V***—External power-supply connection. Serial-port connection labels are on the component side of the PC board opposite the rig and sound card I/Os. Pin numbers indicated are those for a 9-pin (DB9) connector at J1. If you have a 25-pin serial port connection, use the pin numbers enclosed in parentheses in Figure 1.

Summary

Now you have no excuse for not trying AMTOR, FAX, Hellschreiber, MT63, PACTOR, PSK31, RTTY and SSTV. With this interface, you can operate most of the modes by simply running the appropriate software (much of which is free) and selecting the proper interface. You're sure to have fun!

Notes

1 - K7SZL's Unofficial HamComm home page (http://home.att.net/~k7szl) contains information on nearly every aspect of the popular HamComm program.
2 - The JV-FAX/JV-Comm32 site is http://www.jvcomm.de.
3 - Most sound card SSTV and other digitalmode software can be found at
http:// www.muenster.de/~welp/sb.htm.
4 - For PSK31 information and software, visit the "Official" PSK31 Homepage at
http://aintel. bi.ehu.es/psk31.html.
5 - Information on the MT63 experimental mode and software can be found at
http:// members.xoom.com/ZL1BPU/MT63/ MT63.html.
6 - GSH-PC is available at http://ourworld. compuserve.com/homepages/dl4saw
and http://www.pervisell.com/ham/gs1.htm.
7 - PC boards are available from Far Circuits, 18N640 Field Ct, Dundee, IL 60118-9269; tel 847-836-9148 (voice and fax); http:// www.cl.ais.net/farcir/. PC Board only, $5 plus $1.50 shipping for up to four boards. Visa and MasterCard accepted with a $3 service charge.

73's from Jim, N9ART

Jim Mitrenga, N9ART, received his Technician class license in March of 1979; he upgraded to Amateur Extra class in 1981. Jim's wife, Sandy, is KB9MXF. Jim and Sandy are active on VHF and UHF FM for family communication. HF CW is Jim's favorite mode, but he's active on AM, FM, SSB, SSTV, PSK31, RTTY and packet, and enjoys Amateur Radio electronics design. Jim's other interests include fishing, hiking, bicycling, gardening, computers, audio recording and broadcast engineering. Jim is employed as a program manager at Motorola, Inc, in Schaumburg, Illinois, where he started as an RF design engineer in 1979. Currently he concentrates on digital communications audio quality.

8ele (70cm) x 4ele (2m) Crossed Satellite Yagi
By Rob Greaves - VK2GOM

Firstly, I make no claims for originality for this antenna! The basic design was arrived at using the DL6WU DOS-based Yagi designer program, which is freely available on the internet. The finished antenna provides around 10.5dBd gain on 70cm, and 6.5dBd gain on 2m, which is more than adequate to work the FM satellites with a handheld dual band radio (or two mono-band radios) and a couple of Watts.

The antenna design parameters can be tweaked in software, based on the materials you have available. I used aluminium from Bunnings (popular Australian store) tube and section, which was all sized in metric.

All elements are 10mm diameter, and the boom is 19.05mm square x 1.2mm wall, which is actually 3/4" tube that has been 'metrified'!

The Bunnings aluminium is available in 3m lengths, or 1m lengths. For the boom, you will need a single 3m length, cut down of course, and the elements can be cut from the 3m lengths. Careful planning will ensure minimum wastage. One and a bit 3m pieces will do all the 2m elements, and the remaining 70cm elements can be cut from another 3m length of tube, and perhaps another 1m length, if required.

I built my antenna such that the 70cm elements are permanently fixed to the boom, but all 2m elements (including the driven element) are removable to make for easier transport.

All elements are electrically bonded to the boom, which again the DL6WU software can take account of for the necessary boom correction factor.

The driven elements in each case are fed by a simple Gamma match, which is easy to tune using nothing more than an rf source – your hand held radio – and an SWR meter.

OK. Let's build the antenna!

Depending on whether you wish to hand-hold the boom, or mount it on some sort of support or field tripod determines the boom length you will need. My advice is start long – you can always trim it later. My particular antenna is handheld for /P use, which makes for easier operation, since it's not usually a case of simply pointing the antenna at the satellite; quite often you need to compensate for changes in polarisation by twisting the antenna about its boom axis.

First start by cutting the elements. D6, D5, D4 etc. = Directors. DE = Driven Element. Ref = Reflector.

Where necessary, I will refer to each band as 145MHz and 436MHz where confusion could occur with measurements.

For the 145MHz elements, you will need:

D2 = 900.0mm
D1 = 911.5mm
DE = 972.0mm
Ref = 1013.0mm

And for the 436MHz elements, you will need:

D6 = 278.4mm
D5 = 280.8mm
D4 = 283.2mm
D3 = 288.0mm
D2 = 294.1mm
D1 = 299.0mm
DE = 324.6mm
Ref = 345.9mm

The calculated figures from the DL6WU software come out to two decimal places, which is impractical for home based metalwork, so I have rounded them to one decimal place. Just cut them as accurately as you can. I suggest using a rotating tube cutter to ensure the cuts are absolutely square and neat.

The boom can now be drilled.

It may be prudent to mark with a marker pen which edge of the boom will be drilled for the 436MHz elements, and the other edge for the 145MHz to avoid getting mixed up.

Both sets of elements live on the same boom of course, but 90deg apart. It is normal for the 145MHz elements to be horizontal when the boom is held, and the 436MHz elements vertical.

Choose a side of the boom, and mark it '436MHz'. Now, from one end, measure back 10mm and mark a line. This is your datum point from which the measurements will be made. This is also the point that 436MHz D6 fits through the boom.

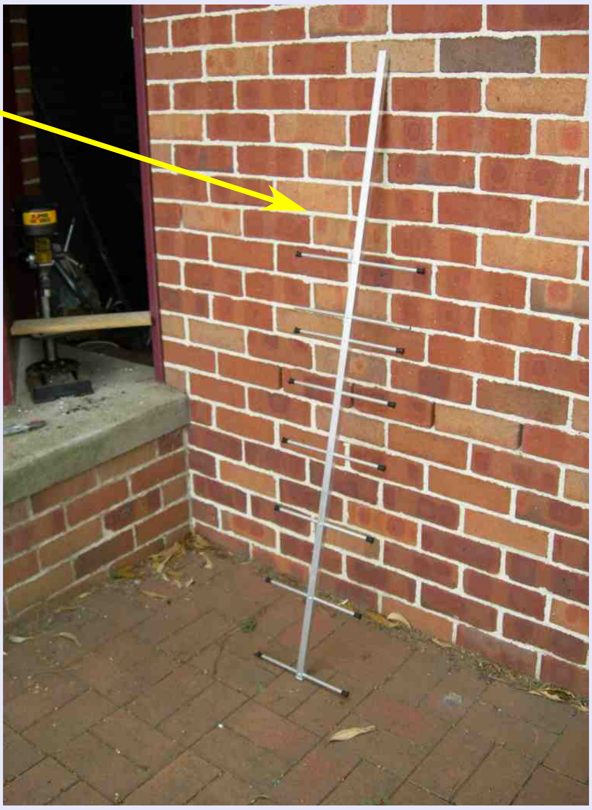
For the remaining elements, measure back from the datum point:

From D6 (Datum point), 207.0mm for D5
From D5, 192.8mm for D4
From D4, 172.9mm for D3
From D3, 148.2mm for D2
From D2, 123.5mm for D1
From D1, 54.2mm for DE
From DE, 127.0mm for Ref

Now, centre punch the boom gently at each of these points, mid-width of the boom. Using a sharp 10mm drill bit, drill each hole through both sides of the boom. Here, it is critical to use a bench mounted pillar drill. Do not hope to achieve perpendicular holes with a hand held drill. Bench mount pillar drills are a cheap investment – mine was about $50 from Super Cheap Auto, and ensures perpendicular holes and a straight antenna.

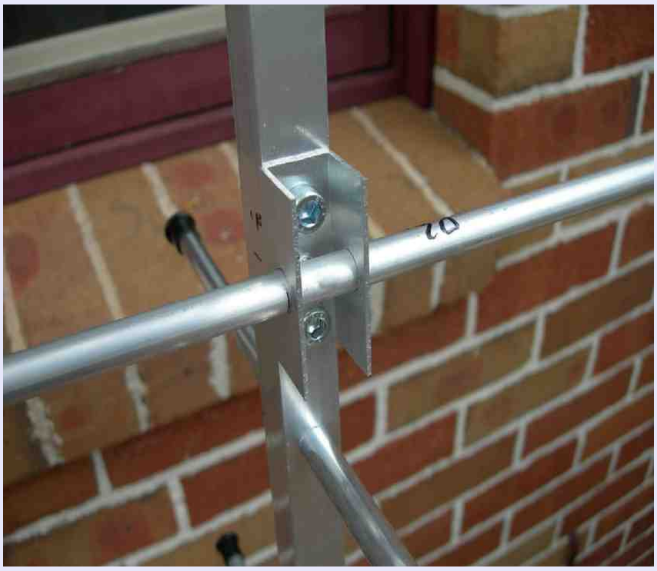
Each 436MHz element can then be slid into the boom, such that the same amount protrudes each side. Eventually, the will be fixed by drilling a small hole through the boom and into one side of the element, and securing with a self-tapping screw, but do not do that yet – we have to deal with the 145MHz elements first.

Your antenna should so far look like this. You will note I have fitted white plastic boom plugs (Bunnings) and plastic end caps to each element (again from Bunnings) except for the driven element. I would suggest only fitting the bung plugs after you have shaken all the swarf out!

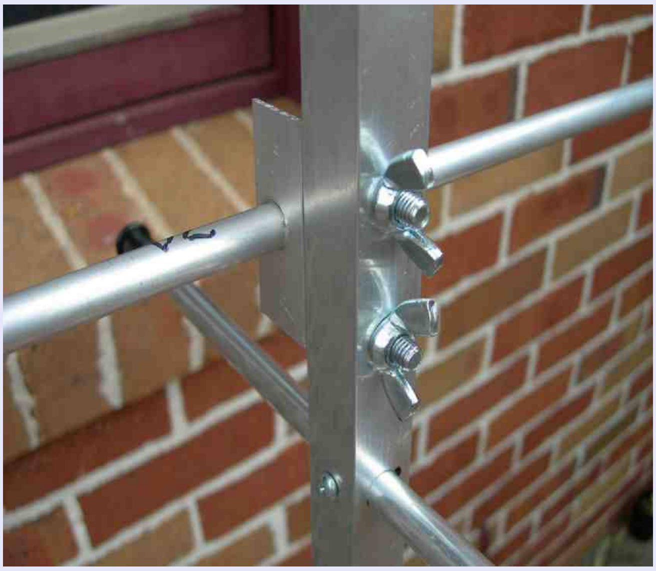


On my antenna, I made all the 145MHz elements removable for ease of transport. I achieved this by making a 'sub mount' for each element from a 50mm length of 20mm U channel aluminium from (you guessed it) Bunnings. A picture explains a thousand words, which is shown overleaf:

(see next page)



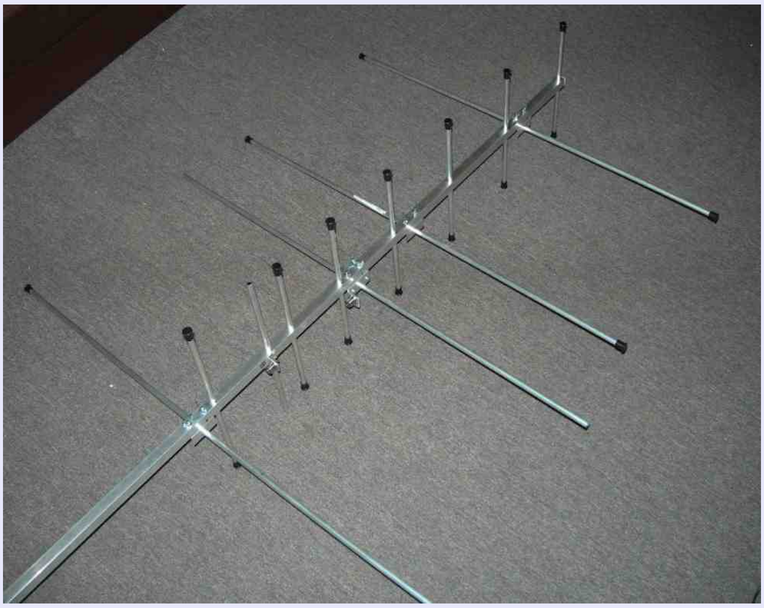
2m element mount from top side



2m element mount from lower side

To drill the U channel, slide each 50mm long section of U channel onto a piece of scrap wood trimmed to size, then centre punch the metal, and drill through both sides with a 10mm drill bit. The U channel is then drilled on the base, as per the pictures, each side of where the element passes through. I used M6 bolts and wing nuts. Each element is secured to the U channel by a small self-tapper from the underside (hence invisible in the pictures) of the U channel, and into one edge of the 10mm element. When it comes to getting the element to sit flush on the boom, you will have to counter-drill a hole slightly larger than the screw head on the boom to accommodate the protruding screw thread. Alternatively, you could use an Aluminium pop rivet and then perhaps just a dimple on the boom surface
All the U channel mounts for the 145MHz elements are drilled with M6 holes 30mm apart, so exactly between those two holes is the centreline on which the element holes lie, and where the element spacings are measured when mounted on the boom.
Again, looking from the 'far' end of the boom, the 145MHz elements mount thus:
From the very end of the boom, 160.0mm for D2
From D2, 373.0mm for D1
From D1, 162.5mm for DE
From DE, 379.5mm for Ref
You should find the 145MHz elements fit neatly between the 436MHz elements, as per the picture overleaf:

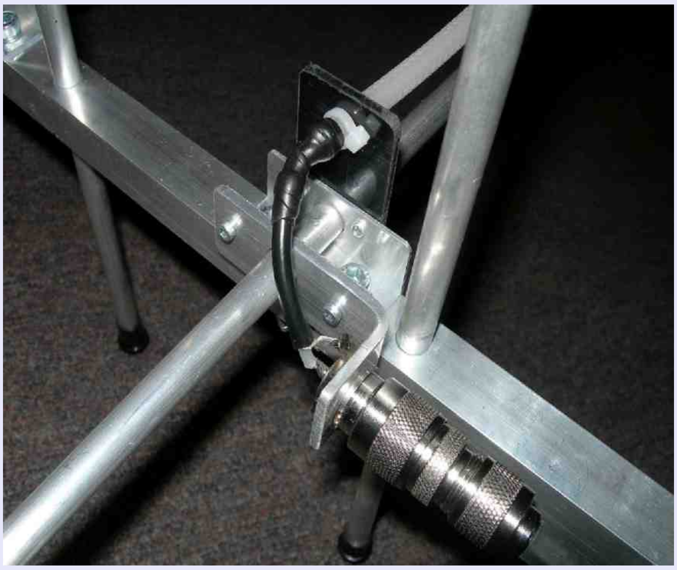
145MHz and 436MHz elements fitted



Again, you will see plastic end caps have been fitted to all but the driven elements.

I used N socket connectors for each driven element as shown in the picture above. The 436MHz N socket mounts on a small piece of angle aluminium (from Bunnings!) pop riveted or screwed to the boom just behind the driven element, as shown in the picture above. Try and aim that the brass solderable part on the back of the socket is 20mm out, radially, from the element when measured centre to centre.

The 145MHz N socket is slightly different – it has to be mounted on a small bracket fixed to the side of the U channel element holder, such that when the element is removed, the N socket comes with it. I used a piece of flat strip aluminium, bent 90deg, then drilled 10mm to slide over the element. This bent strip was then pop riveted to the side of the U channel. The photo below shows the 145MHz element with the N socket (and the gamma match) which we will come to shortly.



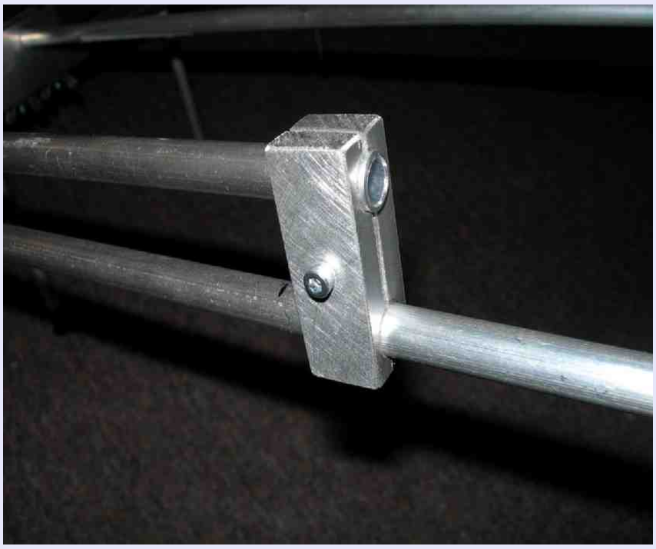
N socket mounting on 145MHz element

Now is the time to build the gamma matches. You will need approx 1m length of RG213, stripped of its inusulation and braid, to leave just the insulated core. This is a nice sliding fit inside the 10mm tube.
For the 145MHz gamma match, cut 230mm of this inner section of the coax, and for 436MHz cut 68mm of coax inner.
You will also need to cut some more sections of 10mm tubing from the scrap left over. For 145MHz, cut 150mm of tube, and for 436MHz, cut 50mm of tube.
Dealing with the 145MHz Gamma match first, as you will see from the photo above, I used a small scrap piece of 3mm thick Perspex, pop riveted to the side of the U channel element holder, drilled to slip over the element, and also drilled to allow the RG213 coax inner to pass through. This RG213 inner needs to be supported 30mm from the aluminium element when measured centre to centre. The short protruding end of the RG213 where it passes through the perspex plate is held in place with a cable zip tie, and the centre conductor is connected to the N socket with a short piece of RG58C coax.

The braid of the RG58C is only connected at the N socket end, and ends just before where the RG58C inner is soldered to the RG213. The whole lot is then wrapped in self-amalgamating tape to protect it. The 150mm length of Gamma tube is then slid over the RG213 inner.

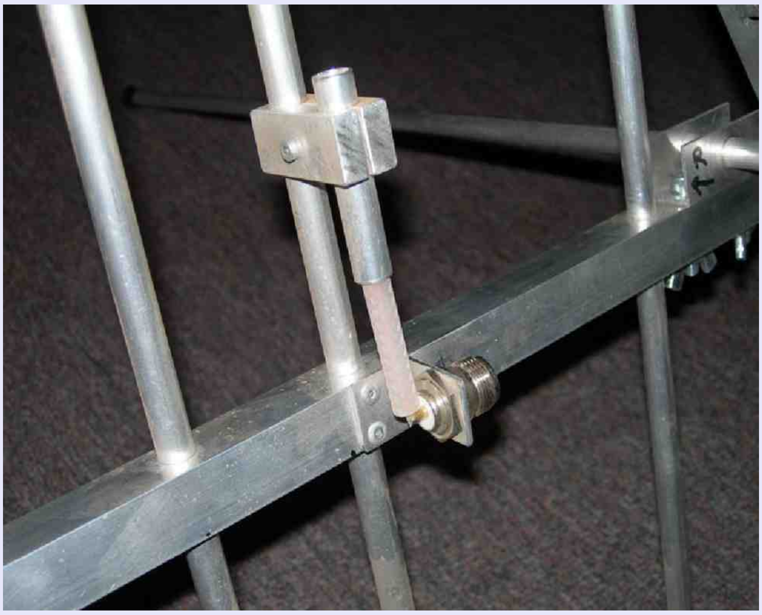
At the other end of the Gamma tube, a moveable shorting bar is used, which during tuning is carefully moved to achieve best SWR before being clamped into position. Rather than a flimsy aluminium strap, I made some solid structural blocks from some scrap 50mm or so lengths of 16mm square section solid aluminium I already had (no luck this time, Bunnings!). I drilled two 10mm holes, 30mm apart (centre to centre) – one for the element, one for the gamma tube. I then drilled a 2.5mm hole through the centre that will take the clamp bolt, then carefully hack-sawed along the length of the shorting block, through the centreline of each 10mm hole. You now you have two halves, which can be clamped together with a bolt. In my case, I tapped one side so the bolt threaded into it, but you could enlarge the hole slightly, and use a small nut and bolt.

The 145MHz Gamma shorting bar looks like this, when mounted on the end of the gamma tube:



145MHz Gamma shorting block

The 436MHz gamma match is made the same way, except the RG213 coax inner is soldered directly to the brass centre pin of the N socket, to lie parallel to the element, this time spaced 20mm from the element, measured centre to centre, as shown below.



Direct connection to N Socket for 436MHz

As far as the positions of the Gamma parts go, my antenna tunes nicely as follows:

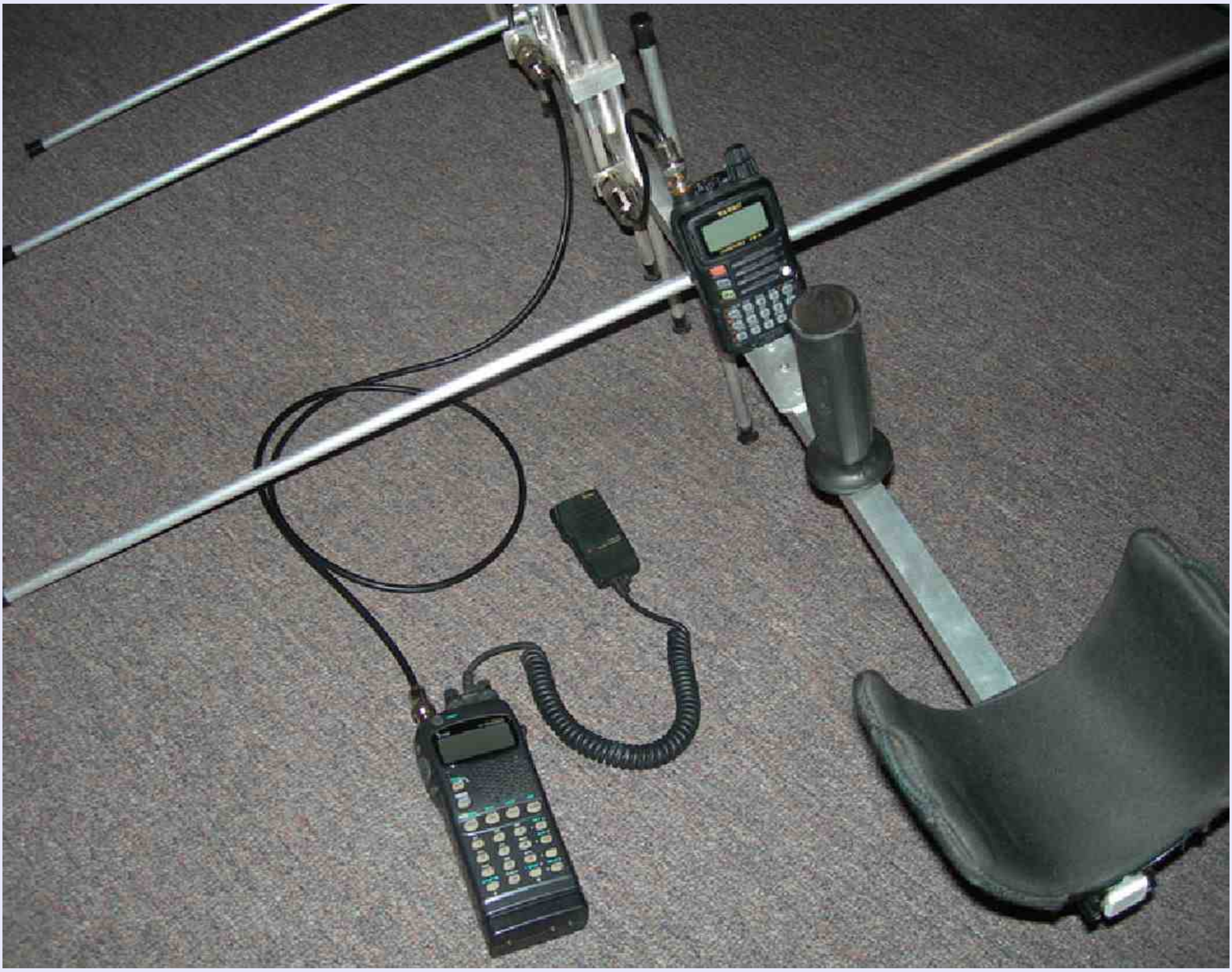
145MHz: The gamma tube is slid over the outer 48mm of RG213 coax inner, and the clamp is fitted 321mm out from the centre of the boom to the centre of the clamp.

436MHz: The gamma tube is slid over the outer 29mm of RG213 coax inner, and the clamp fitted 74mm out from the centre of the boom to the centre of the clamp.

Of course, your tuning may be slightly different based on your construction or measurement tolerances. To set up the Gamma matches, you will need an SWR meter, and a handheld radio. Tune the antenna by a combination of moving the shorting bar and the tube over the RG213 inner by small amounts, and finally clamping the shorting bar when you are happy at the lowest SWR at the desired satellite operating frequencies. The process is the same for both bands.

As far as operation with the antenna goes, initially I used a dual band hand held (Icom ICW-32E) with an Andrews duplexer. However, I still suffered de-sensitising on the 70cm Rx frequency when Tx'ing on 2m. I then came by another hand held, this time a Yaesu VX-6R. I have mounted this radio on the boom, for easy adjustment as the Rx radio for 70cm. The 2m radio now simply sits on my belt on a clip, and I use a speaker mic. The 2m radio needs no adjustment during the course of a satellite QSO, but the 70cm radio will need tuning to cater for Doppler shift during the pass. Having the radio in front of you mounted on the boom helps immensely. Also, using a speaker mic allows you to control audio feedback that might otherwise occur when you are hearing your downlink on a separate radio real-time as you are transmitting.

I also mounted a plastic handle that was taken from an old electric drill, and also an arm rest from a metal detector, to ease with holding and aiming the antenna during the satellite pass.



Yaesu VX-6R (70cm Rx) mounted on the boom, with
Icom ICW-32E (2m Tx) that I clip onto my belt

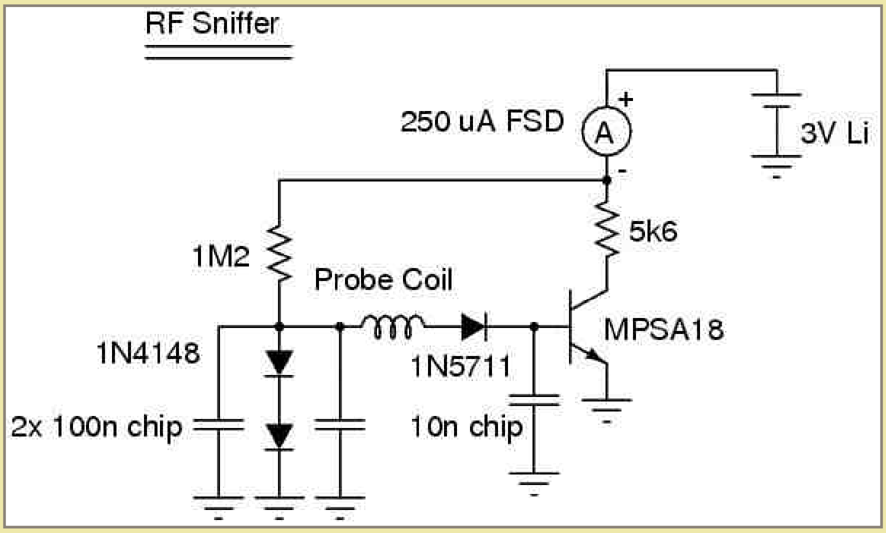
I won't go into how to operate the FM satellites, CTCSS access tones (like the ground based repeaters) or the theory of Doppler shift etc. etc. as this is all information that can be easily gleaned from the internet, as well as the AMSAT website.

However, I do encourage you to give the FM satellites a go with this antenna. I have worked VK's 1 to 8 and ZL with this antenna. All with an FM hand-held! It also makes a useful portable antenna for terrestrial use, although it may require a little re-tuning to work well in the SSB portions of each band.

If anyone needs any further information on the antenna, please drop me a line. I can be contacted via vklogger.com.au, or vk2gom@wia.org.au

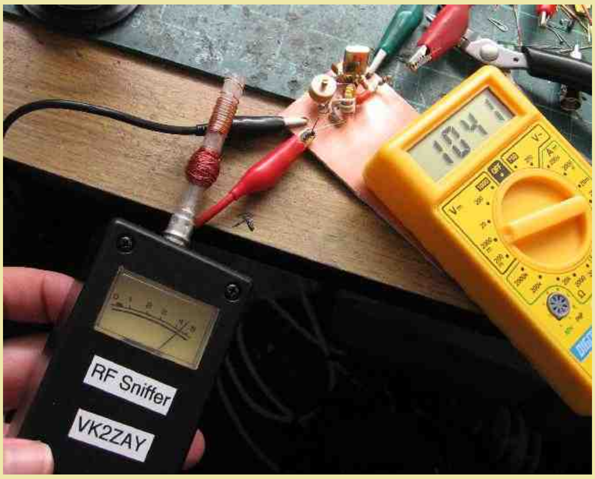
73 – and hopefully see you on the air!
Rob VK2GOM

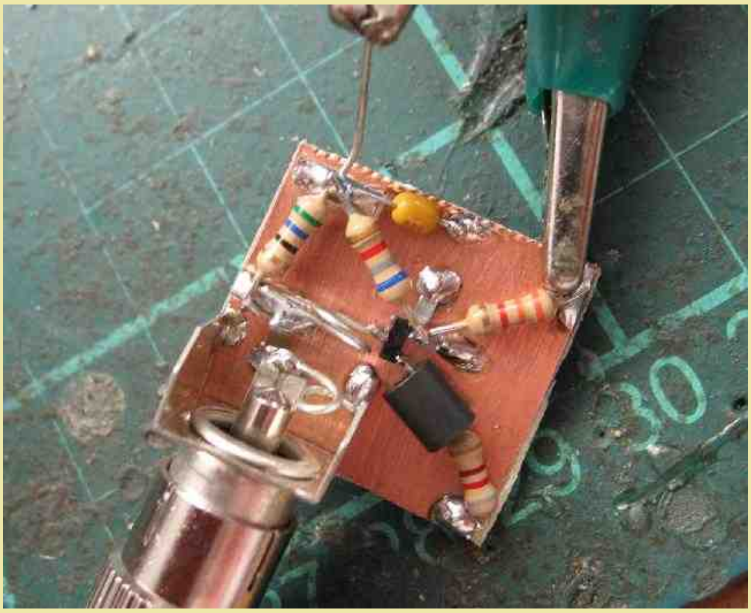
RF SNIFFER
By Alan, VK2ZAY



Yet another circuit based on the biased 1N5711 detector topology. The only two differences in this circuit are the lack of a capacitor to resonate the pickup coil and I didn't add the pot to set the quiescent current, using just the 1M2 resistor to the diodes produced a reading just beyond "1" on the scale with the particular MPSA18 I used. Unplugging the coil is the off-switch, but the current consumption is tiny so I usually leave it plugged in.

The pickup coil is slightly exotic, having a jumble-wound LF/MF choke in series with a HF/VHF coil with a varying pitch along its length. The general idea was to try and produce an probe with several resonances in key bands to make the unit more generally usable with the single probe coil. The turns are held in place by dipping the coil in molten wax. Other coils can be attached, it uses an RCA socket like the HF wavemeter and the two units can share coils. I have several for specific purposes. Sensitivity peaks at the self-resonance of the coil and the stray capacitance of the circuit. The hybrid choke probe works fairly well from LF to SHF.





The microwave oven and WiFi base station are easily detected, showing the units SHF response. My various HAM transmitters happily slam the needle across HF to VHF and UHF. It picks up SAW-locked UHF keyfob transmitters, and even stray MF radiation from the LED multiplexing on the air conditioner control panel. LF radiation from 256 kHz contact-less proximity card readers is detectable quite a distance with the hybrid coil.

It is often too sensitive, and a way to vary the sensitivity would be useful. A 5-10k pot in the right place would do the trick if you are building your own. This would increase its usability as a stray-current tracking tool in antenna work. A probe comprising a split ferrite toroid (clamp-on current probe) would also be quite useful but I haven't had the need to build one yet.

73 ! VK2ZAY

DX NEWS
From the Web (opdx)

3B8, MAURITIUS (AF-049)

Mart, DL6UAA, will once again be back in Mauritius as 3B8MM beginning April 4th; duration will be 3 weeks. Activity will be on 160-10 meters mostly CW. Some SSB and Digital will be possible. QSL via DL6UAA, by the Bureau or direct.

3B8, MAURITIUS (AF-049)

Slavo, SP2JMB, will once again be active from here between April 714th, but as 3B8SC this time. Activity will be on all HF bands using CW. QSL via his home callsign. View photos of Slavo's 2008 trip and operation as 3B8/SP2JMB at:
http://www.sp2jmb.pl/index.php?page=g_mauritius_04.2008&LANG=eng

9H, MALTA

Steve, G0SGB, will be active as 9H3/G0SGB/p from Malta (EU-023, MIA MM-001, WLOTA LH-1113) between June 12-25th. He will also be active from Gozo Island (EU-023, MIA MM-004, WLOTA LH-0046) as 9H4/G0SGB/p. (No specific dates were provided). His activity will focus on lighthouse activations from Malta. QSL via his home callsign, direct only.

A5, BHUTAN

Steve, W7VOA, is scheduled to be active again as A52SW next month in Thimpu from about April 23rd until, at least, May 1st. Activity is planned for CW and SSB, primarily 80-10 meters. RF output is limited to 100w, and his planned antenna is a full-length G5RV. Steve informs OPDX that he will be the sole operator. This is a work trip, so his activity will be limited mainly on the weekends and during the evening weekday hours. Paper QSLs go to his QSL Manager K2AU and e-QSLs via the LoTW only. Steve states (edited), "Although my goal is to complete DXCC for the A52SW callsign. I'll be happy to work as many North American and JA stations as I possibly can."

A7, QATAR (Special Event)

Look for special event station A71RCAR to be active during the "2010 Regional Conference on Amateur Radio" in Doha, April 4-6th. This year's event is being hosted by the "Qatar Amateur Radio Society (QARS - A71A) in collaboration with the International Amateur Radio Union (IARU) in Region 1. A special QSL card will be available to commemorate this event. QSL via QARS Bureau: Qatar Amateur Radio Society (QARS), PO Box 22122, Doha, Qatar.

GB8, SCOTLAND (WFF Op)

Members of the GMFF team have applied for official permission to visit Rum National Nature Reserve (GMFF-058) located on the same name Isle of Rum (IOTA EU-008) and are planning to activate it between April 30th and May 3rd. They have applied for the special callsign GB8RUM to be used from the island during the DXpedition. More details are forth- coming on this WFF (New One) DXpedition. More information is available at: http://www.gmff.org

HB0, LIECHTENSTEIN

Marc, OZ1MDX, will be active as HB0/OU4U between June 22-27th. Activity will be on the HF bands using CW, SSB, RTTY and possibly PSK31. Direct QSL for HB0/OU4U is via Tim, M0URX (United Radio QSL Bureau). For Bureau QSL by E-mail requests, please visit:
http://www.m0urx.com/qsl-request-form.html

PJ5, ST. EUSTATIUS (NETHERLANDS ANTILLES)

Joe/W8GEX has announced (along w/co-leader Joe/AA4NN) that plans are in the works to activate St. Eustatius this autumn when it becomes a new country. Their plans include 10 days of operations, with an international crew of operators, and at least four stations on the air 24/7. Look for more details to be forthcoming.

T30, WESTERN KIRIBATI

Haru, JA1XGI/W8XGI, informs OPDX that he will be active once again from Western Kiribati as T30XG or T30/T32XG between June 3-9th. Activity will be on 40-6 meters, including 30/17/12m, using CW and the Digital modes. QSL via JA1XGI, direct or by the Bureau.

TM8, FRANCE (Special Event)

Members of the Radio Club Haut-Rhin (REF68) will activate special event station TM68X between April 5-18th. Activity is to celebrate "World Amateur Radio Day" on April 18th. The club will also organize a special exhibit at the MJC Fernand Anna de Wittenheim in Upper Rhine. QSL via F8BUO. Visit their Web page at: http://www.ref68.com/expo

For details on the IARU's "World Amateur Radio Day", see: http://www.iaru.org/rel030418.html

V2, BARBUDA AND ANTIQUA

Randy, WD8MGZ, will be active as V25WV from Codrington Village on Barbuda (NA-100) between April 24th and May 1st. For frequencies and schedules, use Twitter.com and search wd8mgz. Also, contact Randy via echolink (V21RW-R). He will be using a Icom 706 and a Yaseu 2 meter mobile. For more information, use the Web site: http://home.comcast.net/~randylwilliams/site

VP8, FALKLAND ISLANDS

Iain, M0PCB, is now active from the RAF Amateur Radio Club Station located at Mount Pleasant Airport using the callsigns VP8FIR or VP8RAF until April 7th. QSNs show that he has been on 15 meters CW. QSL via his home callsign. QSL cards will be printed once Iain is back in the UK.

WH0, MARIANA ISLANDS

Kuro, AL5A (JH0MGJ), will once again be active as WH0/AL5A from Saipan Island (OC-086), Northern Mariana Islands (KH0), between April 24-26th. Activity will be on 80-10 meters using CW and SSB. He plans to listen especially for "weak" European stations. QSL direct to JA7JEC. Send Bureau QSLs to the JARL Bureau to JH0MGJ.

ZL7, CHATHAM ISLAND

Operator Kaz Oya, ZL3JP, will be active from here between April 28th and May 3rd. He will use ZL7J, a special and temporary callsign issued only to ZL3JP for this operation from Chatham Island. Kaz is planning to arrive on Chatham Island (OC-038) on April 27th, and will be leaving on May 4th. Activity will be on 160-10 meters using CW and SSB. His QSL Manager is JH1HRJ. QSL by the Bureau, direct (w/SASE) and/or e-QSL is also planned.

ZS8M PIRATE?

Pierre, ZS1HF, reports this past week: "Hi All, Yes, in true tradition, we will have an idiot pirating my callsign - ZS8M. Shame on you! Please note....ZS8M will only be operational from approx 15 May 2010. Before I get operational, I will notify you all via qrz.com once I am ready. Please do not entertain any idiot pirating my call sign before I make the announcement. My technical training is progressing well. The complete team gathers on Tuesday 23 March in Cape Town to start team training - fire fighting, first aid and cooking.

73 for now..... Pierre ZS1HF"

SM3CVM Presents :

SM3CVM DX-kalender

THE DXCALENDAR

- 1/4 SEYCHELLES; S79GM
by GM0GAV and GM3YTS. Activity will be on all bands with an emphasis on the lower bands. Operations will be mainly CW with a possibility of some RTTY. They have tried to gain access to 7000-7050 kHz without any success, so look for them on 7050 or above and listening around 7025 kHz. They do have full access to 80m. There is a S79GM blog and the operators plan to update their QSX frequencies on that page. The blog page is http://s79gm.blogspot.com/
All QSOs will be uploaded to LoTW immediately upon their return home and they hope to be able to upload their logs during the DXpedition to http://www.clublog.org/charts/?c=S79GM/

- 1/4 BONAIRE, CURACAO; PJ4/OK7MT and PJ4/OK5MM SA-006
from Bonaire. They will participate in the Russian DX Contest (20-21 March) and the CQ WW WPX SSB Contest as PJ4L. QSL via OK7MT, direct or bureau.

- 1/4 GUATEMALA; TG9IRP
by IV3IYH including an entry in the CQ WPX SSB Contest. He will operate CW, SSB and RTTY on 80-10 metres. QSL via IK2ILH, direct or bureau (e-mail requests for bureau cards can be sent to ik2ilh@libero.it), or LoTW.

- 1/4 ARUBA; P4/DK1MM SA-036
including an entry in the CQ WW WPX SSB Contest as P41M. QSL for both callsigns via DK1MM.

1/4 - 2/4 COLOMBIA; 5K7SNC
from the Laguna Grande de la Sierra. Announced hours of operation frequency are:
April 1st - 7140 kHz between 1700-2400z
April 2nd - 7140 kHz between 0000-1700z
QSL via HK3OCH. For more details and possible updates, visit http://www.qrz.com/ under 5K7SNC.

2/4 - 12/4 IRAQ; YI9PSE
A group of operators called the "YI9PSE DXpedition team" are planning to operate from Kurdistan. The team will receive a ten day visa issued by the Government of Kurdistan. A band/mode survey is available on their Web site at : http://www.yi9pse.com/survey.html
Suggested frequencies are also published on their Web page. The current updated YI9PSE Team consists of the following operators: N6PSE (Team Leader), N6NU, N6OX, W8HW, NI6T, AH6HY, N2WB, K3VN, JH4RHF and YI1UNH. Pilot stations are: N1DG, AA6G and JA1ELY. Online logs will be available during and after the DXpedition. QSL via N6NKT. For more details and updates, visit http://www.yi9pse.com/

- 2/4 TONGA; A33A OC-049, OC-123 and OC-064
by K6HFA. He will operate CW, SSB and maybe RTTY on 80, 40, 30, 20, 17 and 15 metres, with 100 watts and a vertical. Further information is expected in due course. QSL via home call.

2/4 RODRIGUES I; 3B9WR AF-017

from Cotton Bay, Rodrigues Island by G3LZQ. Activity will be on all bands 160-10 meters, probably and mainly CW, but with a focus on the lower band (QRN permitting). He plans to be on the air daily during his sunrise and sunsets (01.45 UTC and 13.45 UTC) and occasionally during his daytime Look for him to be in the RSGB's 73rd Commonwealth Contest (March 13-14th). QSL via his home callsign.

2/4 - 12/4 IRAQ; YI9PSE

A group of operators called the "YI9PSE DXpedition team" are planning to operate from Kurdistan. The team will receive a ten day visa issued by the Government of Kurdistan. A band/mode survey is available on their Web site at : http://www.yi9pse.com/survey.html

Suggested frequencies are also published on their Web page. The current updated YI9PSE Team consists of the following operators: N6PSE (Team Leader), N6NU, N6OX, W8HW, NI6T, AH6HY, N2WB, K3VN, JH4RHF and YI1UNH. Pilot stations are: N1DG, AA6G and JA1ELY. Online logs will be available during and after the DXpedition. QSL via N6NKT. For more details and updates, visit http://www.yi9pse.com/

4/4 - 6/4 QUATAR; A71RCAR

Special event station for the 2010 Regional Conference on Amateur Radio (RCAR), hosted by the Qatar Amateur Radio Society (QARS) in cooperation with the International Amateur Radio Union. QSL via the QARS bureau.

- 4/4 MALDIVES; 8Q7QX AS-013

by DL3OCH. He plans to operate mainly CW on 40-12 metres, with some activity on 80m, RTTY and PSK31. QSL via DL3OCH direct or bureau and LoTW. He will also operate EME along with 8Q7QQ (HB9QQ), 8Q7RQ (HB9CRQ) and 8Q7HP (DL2NUD). Information on the EME activity can be found at http://mmmonvhf.de/

4/4 COLOMBIA; HK3JCL

by DK8LRF. He will operate SSB, Pactor, RTTY and PSK31 mainly on 20 and 40 metres. QSL via DK8LRF, bureau preferred.

4/4 ANTIGUA & BARBUDA; V21ZG NA-100

from Antigua by DL7AFS and DJ7ZG. Activity will be on 80-6 meters with operations mainly on RTTY, PSK and SSB. They plan to look for JA stations and QRP stations. QSL via DL7AFS.

6/4 - 12/4 WALLIS & FUTUNA IS; FW OC-054

by K6HFA. He will operate CW, SSB and maybe RTTY on 80, 40, 30, 20, 17 and 15 metres, with 100 watts and a vertical. Further information is expected in due course. QSL via home call.

7/4 SRI LANKA; 4S7ULG AS-003

by UX4UL. He operates BPSK, RTTY, CW on 20-10 metres. QSL via UY5ZZ.

9/4 - 2/5 REUNION I; FR/F5UOW AF-016

will operate mostly CW. He will be active on 20 metres until 17 April, then he will move to another QTH and operate as TO2R on 80-10 metres. QSL via home call.

11/4 - 17/4 MICRONESIA; V63DX, V63DQ and V63T OC-010

from Pohnpei by JA7HMZ (V63DX), JA1ADT (V63DQ) and JA7GYP (V63T). Activity will be on all bands and modes. QSL via their home callsigns.

7/4 SRI LANKA; 4S7ULG AS-003
by UX4UL. He operates BPSK, RTTY, CW on 20-10 metres. QSL via UY5ZZ.

13/4 - 21/4 TUVALU; T2 OC-015
by K6HFA. He will operate CW, SSB and maybe RTTY on 80, 40, 30, 20, 17 and 15 metres, with 100 watts and a vertical. Further information is expected in due course. QSL via home call.

14/4 - 19/4 TAIWAN; BW1/K8QKY
Activity will be on 160-6 meters using CW. QSL via his home callsign.

15/4 - 20/4 CANADA; CK8G NA-182
from Greens Island by VE8EV. Activated only once back in 1993, this IOTA group has been claimed by only 5.3% of current IOTA participants. He expects "around-the-clock propagation on 20m and will concentrate on Europe during their sunrise and sunset, North America during their sunset, and Asia right after their sunrise". He will operate SSB only using a 3-element yagi antenna and an amplifier. QSL via VE8EV direct or bureau. Updates and further information, including details on how contribute to this expensive operation, can be found at
http://ve8ev.blogspot.com/search/label/IOTA/

20/4 SOLOMON IS; H44MS
by DL2GAC. On 6-19 February he will be going to the Reef Islands (OC-065), Temotu Province. QSL via home call.

ca 30/4 E. KIRIBATI; T32MI, T32SI, T32CI and T32VI IOTA NEW OC-279, OC-280, OC-281, OC-282
from Malden Island (T32MI), Starbuck Island (T32SI), Caroline Island (T32CI) and Vostok Island (T32VI) by SM6CAS, G3KHZ, G4EDG, 9M6DXX and K9AJ plus five Kiribati Government officials, will be leaving Christmas Island on a long voyage to the Southern Line Islands. They plan to be active on each island for four days with four stations from two operating sites on each island. QSL direct via SM6CAS. The voyage will be almost 1,800 nautical miles. Further information is expected in due course, bookmark http://t32line.webnode.com/ for updates.

23/4 - 26/4 FIJI; 3D2 OC-016
by K6HFA. He will operate CW, SSB and maybe RTTY on 80, 40, 30, 20, 17 and 15 metres, with 100 watts and a vertical. Further information is expected in due course. QSL via home call.

23/4 - 1/5 BHUTAN; A52SW
by W7VOA. He will operate CW and SSB on 80-10 metres with 100 watts and a full-length. It will be a business trip and he will be active mainly on weekends and during his evening weekday hours. QSL via K2AU and LoTW.

24/4 - 26/4 MARIANA IS; AL5A/WH0
from Saipan by JH0MGJ. He plans to operate CW, SSB and possibly other modes on 80-10 metres, with a focus on Europe. QSL via JA7JEC.

25/4 - 6/5 MARTINIQUE; FM/F5TGR
Activity will be limited to his spare time (holiday style) on 40-10 meters using CW and SSB. QSL via his home callsign, direct or by the Bureau.

25/4 - 16/5 CHINA; BY1DX/I0SNY
from Beijing. He will focus on 40 and 17 metres. QSL via I0SNY (direct only).

27/4 - 4/5 TUNISIA: TS8P and TS8P/p IOTA AF-083 and IOTA AF-092
from Djerba Island and Kuriat Island by IK7JWX, I8LWL, IC8ATA, IK8GQY (YL), IK8BPY, IS0AGY, IK2DUW, IW2NLC (YL), IK2GPQ, IZ7ATN, IK2PZC and IZ2GRG. Activity will be on all HF bands and 6 meters, using CW, SSB, RTTY and PSK31. QSL via IK7JWY.

30/4 - 2/5 UNITED STATES OF AMERICA; W1ACT NA-046
from Martha's Vineyard. Activity will include the New England QSO Party (May 1-2nd). Suggested frequencies are: 3540, 7040, 14040 and 14280 kHz. QSL via N1JOY: Roland Daignault, 19 Davis Rd, Westport, MA 02790-3433.

30/4 BAHAMAS; C6ANM NA-001
primarily from Nassau, 160-6 metres CW and SSB, including participation in the CQ WW 160-Meter DX Contests (CW and SSB) and in the ARRL DX SSB Contest. QSL via LoTW (preferably) or direct to WA2IYO.

1/5 WILLIS I.; VK9WBM
HF and 6 meter with 2 ele quad. QRV as time permits. QSL via VK4DMC.

1/5 - 27/5 GREENLAND; OX/KØKU NA-018
from Thule by NØRC. Activity will be limited as work permits, but he plans to be on every other day and try to get on the air for contest weekends, but he cannot guarantee this. Look for the log to be uploaded to LoTW and EQSL. QSL direct to NØRC or by the Bureau.

2/5 - 14/5 OGASAWARA; JD1BMH AS-031
from Chichijima Island by JG7PSJ. Activity will be on 40-10 meters (possibly 80m) using CW, SSB and the Digital modes. QSL via his home callsign. Visit his Web page for more details at http://sapphire.es.tohoku.ac.jp/jd1bmh/index.html

11/5 KENYA; 5Z4/LA9PF
He plans to operate on all bands and modes running 100 watts into a 3-element beam or a loop. He also expects to operate as 7Q7PF from Malawi during that time frame. QSLling information at qrz.com under LA9PF.

13/5 - 16/5 NEW CALEDONIA; FK/W3HQ OC-033
from Lifou, Loyalty Islands by W3HQ and VK2DON. Their activity will be on 40/30/20 meters using CW only. QSL via W3HQ.

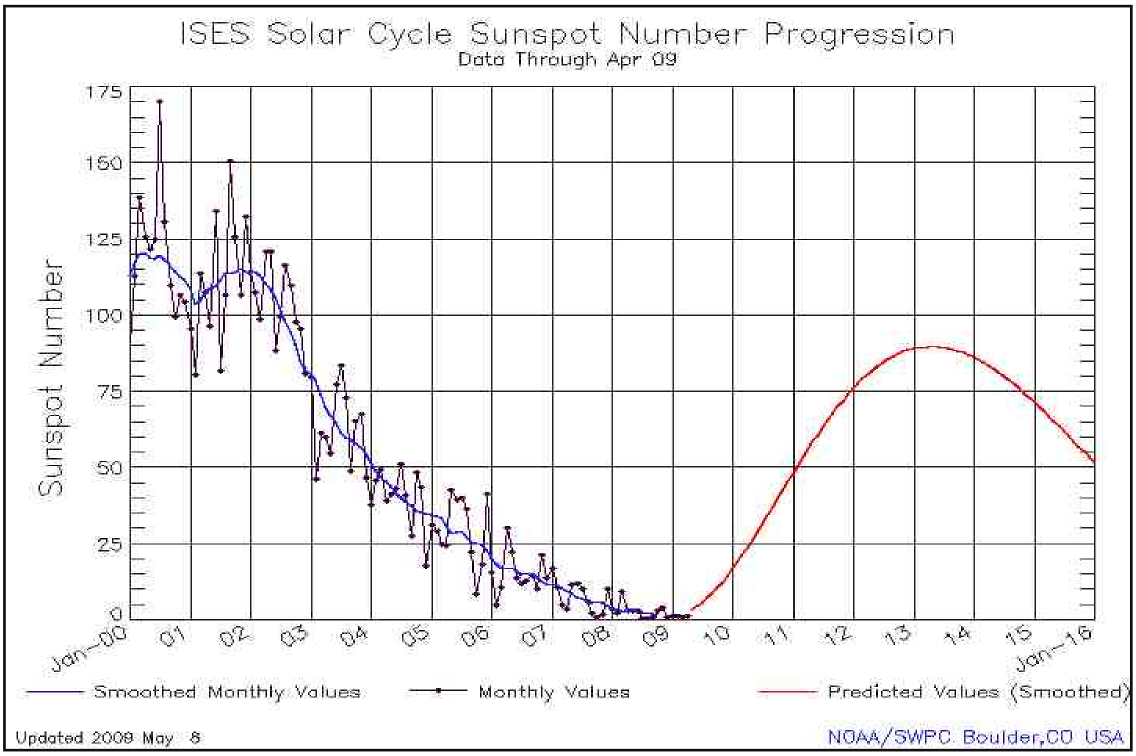
15/5 PERU; OA4/DL5YWM
He plans to operate in his free time from Lima. Side trips to different call areas are possibile, as well a "last minute" operation from an island.

18/5 - 19/5 SAMOA; 5WØOX OC-097
by UX0HX, RK3FA, UR3HR, US7UX, UT1HF and UT5UY. They will operate CW, SSB and digital modes on 160-10 metres. QSL via UR3HR, direct or bureau. More information, including details on how contribute to the expedition, at
htpp://www.uz1hz.com/pacificodyssey.html

18/5 MALDIVES; 8Q7IA AS-013
by UX4UL. He operates CW, SSB and BPSK on 40, 20 and 17 metres. QSL via UY5ZZ.

CONTESTS OF APRIL

From	***To***	***Contest***	***Mode***
3/04/2010 00:00	3/04/2010 04:00	LZ Open 40m Sprint Contest	CW
3/04/2010 15:00	4/04/2010 15:00	SP DX Contest	CW/SSB
3/04/2010 16:00	4/04/2010 16:00	EA RTTY Contest	RTTY
3/04/2010 18:00	4/04/2010 24:00	Missouri QSO Party	CW/Phone
10/04/2010 07:00	11/04/2010 13:00	Japan International DX Contest	CW
10/04/2010 12:00	11/04/2010 12:00	Radio Maritime Comm. Day	CW
10/04/2010 12:00	10/04/2010 17:00	DIG QSO Party (10-20m)	CW
10/04/2010 16:00	10/04/2010 19:59	EU Sprint Spring	CW
10/04/2010 18:00	11/04/2010 23:59	Georgia QSO Party	CW/Phone
11/04/2010 06:00	11/04/2010 10:00	UBA Spring Contest 80m	SSB
11/04/2010 08:00	11/04/2010 18:00	International Vintage Contest	SSB/CW/AM
11/04/2010 07:00	11/04/2010 09:00	DIG QSO Party (80m)	CW
11/04/2010 09:00	11/04/2010 11:00	DIG QSO Party (40m)	CW
17/04/2010 00:00	17/04/2010 23:59	Holyland DX Contest	ALL
17/04/2010 00:00	17/04/2010 24:00	TARA Skirmish Digital Prefix	DIGITAL
17/04/2010 05:00	17/04/2010 8:59	ES Open HF Championship	CW/SSB
17/04/2010 16:00	17/04/2010 19:59	EU Sprint Spring	SSB
17/04/2010 16:00	18/04/2010 04:00	Michigan QSO Party	CW/SSB
17/04/2010 17:00	17/04/2010 20:00	EA-QRP CW Contest (1)	CW
17/04/2010 18;00	18/04/2010 18;00	Ontario QSO Party	CW/Phone
17/04/2010 20:00	17/04/2010 23:00	EA-QRP CW Contest (2)	CW
18/04/2010 07:00	18/04/2010 11:00	EA-QRP CW Contest (3)	CW
18/04/2010 11:00	18/04/2010 13:00	EA-QRP CW Contest (4)	CW
24/04/2010 12:00	25/04/2010 12:00	SP DX RTTY Contest	RTTY
24/04/2010 13:00	25/04/2010 12:59	Helvetia DX Contest	ALL
24/04/2010 16:00	25/04/2010 21:59	Florida QSO Party	CW/Phone
24/04/2010 17:00	25/04/2010 17:00	Nebraska QSO Party	CW/Phone
26/04/2010 00:00	30/04/2010 23:59	EUCW/FISTS QRS Party	CW



CQ SIX - 50 MHZ DX NEWS
BY ON6OM

Tonga, A3, [Update].
Paul, A35A, informs OPDX on December 2nd, that Dave/W6ZL (A35KL) was leaving Ha'apai on December 3rd. Dave should be in New Zealand by the time you read this. Paul states, "Dave probably won't be QRV again from Tonga until perhaps April 2010. He may be able to get on the air from ZL, when he visits some of his radio buddies down there. I'll let him fill you in if/when that happens." He also mentions, "All antenna work here at A35A is 99% complete. The SteppIR yagi (w/6m add-on) is up and working fine; the 4 element 6m beam has been cleaned up and is working fine; the SteppIR BigIR vertical (w/80M add-on) is up, but I still have some tweaking to do on the elevated radials to get a good impedance match. I intend to be more active from now on, especially on 80m. I want to finish up on 5BDXCC before my QSL manager (W7TSQ) gets tired of waiting! HI... The 6m Es season is fast approaching down here, so that should provide some excitement....especially since both North and South Cook Islands (E51CG and E51WL) are now QRV. Incidentally, our announced move to Vava'u has been postponed indefinitely, and perhaps cancelled altogether. A35A remains QRV from Lifuka Island, Ha'apai until further notice. QSL via W7TSQ or LoTW

Antigua, V2.
Operators Babs/DL7AFS and Lot/DJ7ZG will be going on another DXpedition, but this time to the Caribbean region. Look for them to be active as V21ZG from Antigua between March 16th and April 4th. Activity will be on 80-6 meters with operations mainly on RTTY, PSK and SSB. They plan to look for JA stations and QRP stations. QSL via DL7AFS.

Maldives, 8Q. [Update].
As well the Team will try to setup a MMMonVHF DXBlog to spread their latest News: http://www.mmmonvhf.de/showblog.php?ca=8Q7QQ We are now in the final stage of preparations for our Maldives Islands 2010 DXpedition. QTH: Island of Velidhu, Ari Atoll (MJ64je) Date: We arrive on the island March 21st. Once there we will start to build the 4 stations. We expect to be QRV from March 23rd moon-rise to March 31st moon-set. On April 4th we will be flying back to HB9. Team: HB9QQ Pierre, HB9CRQ Dan, HB9EHJ/DL3OCH Bodo and DL2NUD Hermann and Silvana (XYL of Dan) - Call: All operators will have a 8Q7 license and call. We expect to use 8Q7QQ on all the bands. For more detail do have a look at: http://www.mmmonvhf.de/latest.php?id=2896

Maldives, 8Q.
Dan, HB9CRQ, did send MMMonVHF an first Pre-Announce for the upcoming EME Expedition to th Maledives Islands in march 2010. Operator will be of Pierre, HB9QQ and Dan, HB9CRQ and maybe other Members of the HB9Q Team. Mainwork will be 144 MHz but as well 6m and 23cm band will be joined. If there are more Operators maybe as well 70cm will be activated (if any OP will have interest
to join the Team please pass an info to Dan, HB9CRQ). Flights and Bungalows are booked already. Soon MMMonVHF will spread out more detailed informations (http://www.mmmonvhf.de/latest.php?id=2896) tnx to Dan, HB9CRQ, Team of HB9Q direct to MMMonVHF

Turks & Caicos, VP5.
By W5CW; QRV Mar 23 - April 6 as VP5/W5CW before/after WPX on 160 - 6 Meters CW/SSB; focus on WARC. Special Callsign in WPX will be VP50V (VP Fifty V.) QSL via Box 88, Morris, OK 74445-0088. (Maurice, F5NQL)

Denmark, OZ.

Hello Guys, I (OZ6OM) will be QRV in the Nordic Activity Contest Thursday evening (April 8th.) between 18 and 22 UT. I intend to be QRV from JO55EJ at an alternate QTH running 100 w. into a 5 or 6 element Yagi. In any case I intend to keep activity round 50.173 MHz (SSB/CW) and 50.230 MHz / 50.236 (JT6m). I´m open for skeds at CW/SSB the first 2 hours, and JT6m the last 2 hours. I can be reached at email oz6om(at) uksmg.net prior to the contest and SMS +45 2066 7388 during the contest.

(One of the reasons I´m operating this way is, my attempt at setting up reasonable antennas at my QTH have so far ended in a law suit (Latest, case filed at the domestic court) Hope to see You down the log ...

vy 73 de Matt OZ6OM - 8 Apr. 2010

England.

G. Ian G6TGO writes, I am arranging a UKSMG Stand at the NARSA Exhibition in the North Western part of England, on the 11Th of April 2010. This will be the very first UKSMG Stand at this Rally. I will be arranging a live WSPR station however it is unlikely that there will be many people about on WSPR as here in the north we do not have any WSPR stations on 6m, except me and G3ZOD 11Km away!

So I have arranged possible (EI) Irish help in ensuring some activity on the day for demonstration purposes. A Halo will be the Aerial in use.

Ogasawara, JD.

Operators Stan/AC8W (JD1BNK), Ted/K8AQM (JD1BNM), Steve/K8QKY (JD1BNQ) and Brian/KG8CO (JD1BNJ) will be active from Chichijima Island as part of the "JD1 Project 2010" between March 28th and April 12th. Activity will be on 160-10 meters using CW, SSB and RTTY.

Each operator will be active as follows: JD1BNJ - Only RTTY and PSK31. JD1BNK - Mainly CW on the HF bands. JD1BNM - Mainly CW on the lower bands.JD1BNQ - Mainly CW on the HFbands and 6m.

QSL via K8AQM, direct, by the Bureau or LOTW

France, F.

The French TM5EL DX Group will be active on Sein Island in France on 7 - 14 April (Loc: IN78NA) TM5EL will be active on the HF bands, 6m, 2 m, 70 cm, and 23cm using SSB, CW and digital modes. QSL via F6KHI, direct o via bureau. Operators: F4BCG, F4FCS, F5RAB, F6AXN, F6DXE, D6DPD, F8AEJ

Taiwan, BV.

Steve, K8QKY will be active from the island of Taiwan (Grid square PL04) as BW1/K8QKY from 14-19th April 2010 QRV 160-6 metres, CW only. QSL via home call

Solemon Isl., H40. [Update].

After the great success of his last H40FN DXpedition to Temotu OM Siegfried,DK9FN, decided to make another DXpedition there this year. He will be accompanied by Hans-Peter,DG1FK (H40FK), and Bernhard,DL2GAC (H40MS), who is staying in the Solomon Islands since Jan 21 and will be QRV again as H44MS after Temotu until Apr 19. The trio will show up from Ngarando Reef from Feb 6-19. H40MS will be active in SSB, H40FN in CW and H40FK in digital modes. Their antenna is a multiband 2 ele vertical "Lobster" for 160m-6m. The antenna was described in the German magazine CQDL 12/2009. QSL cards for H40MS and H40FK should be sent via their homecalls. The QSL manager for H40FN is HA8FW.

Updates can be found online at: http://www.hari-ham.com/seiten/h40fn_2010/index.php

Bahama Isl., C6.

Tom, C6ANM will be active from January through April 160-6 metres CW and SSB, including participation in the CQ WW 160-Meter DX Contests (CW and SSB) and in the ARRL DX SSB Contest. He will primarily operate from Nassau. QSL via LoTW (preferably) or direct to WA2IYO

What is a "Good Ground?"
By Joseph J. Carr

One of the universal bits of advice given to amateur radio operators and shortwave listeners is to provide a "good ground" for their transmitters, receivers and antennas. A number of antenna designs, especially those that are unbalanced with respect to ground (e.g. Marconi style antennas), require a connection to ground in order to function correctly. Even balanced or “Hertzian” antennas work better if the receiver or transmitter is grounded.

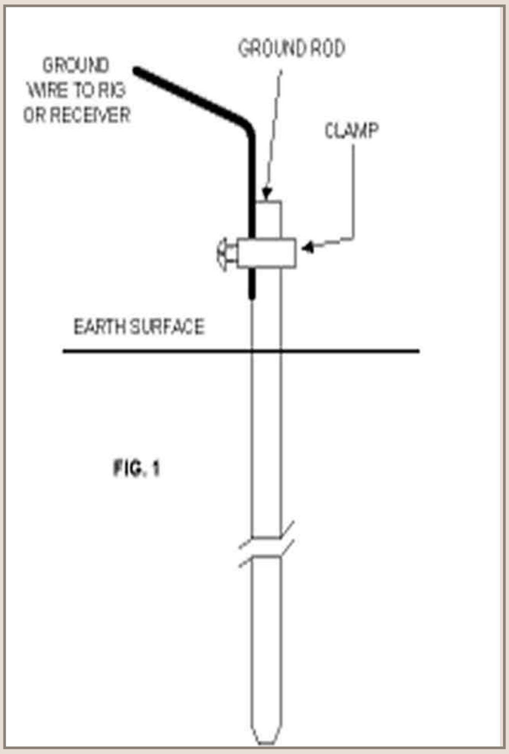
Theproblem is that many books and equipment user manuals ask you to provide a "good ground" but don't say what constitutes a "good ground." Let's take a look at the issue.

A Good Ground Connection

A good ground is one that has a low resistance to the Earth at radio frequencies. A ground that is good enough for DC or low frequency power lines (60 Hz) is not necessarily a good ground at radio frequencies.

Figure 1 shows the most basic form of radio antenna ground. A conductive ground rod is driven into the Earth for a certain distance. Some people use short rods, such as the 3-foot ground rods used for television antennas, but that is not the best solution. A proper radio ground for high frequency (HF) band operations should be 8-feet long. Anything less than that usually results in poorer performance, and may not provide proper lightning protection. Indeed, the shorter size ground rods might not even be legal (your local electrical inspector may have an opinion or two on this matter!).

Some ground rods are made of copper, but many of them are made of copper clad steel. Such rods are made of a steel core with a thin layer of copper on the outer surface. The low resistance copper is sufficient because RF currents flow on the outside of a conductor (a phenomenon called “skin effect”).



The ground rod in driven into the Earth within a few inches of its top, and then a wire clamp is fastened. This clamp is used to hold the ground wire fast to the ground rod.

Soldering is usually out of the question because the Earth and the rod make a dandy heat sink, making unlikely that you can reach solder melt temperatures with anything less than propane torch (it can be done, however).

Hint: From harsh experience let me give you one pointer: slip the wire clamp over the ground rod before you start pounding the rod into the Earth. Repeated blows with a hand sledge hammer are required to drive the rod down into the soil, and those blows will splay the top end of the rod. When this happens the clamp will not have sufficient inside diameter to slip over the top of the rod. If you wish to keep the wire clamp from banging around as you hammer, then temporarily fasten it to the rod with its own screw, or with some masking tape.

A few ground rods are made of copper tubing. These grounds are made of 1-inch or larger copper pipe, and should be of thick wall stock rather than ordinary plumbing water pipes. While there is an argument that copper tubing makes a better ground than rods, they are also the very devil to install (later we will deal with an exception).

The ground system shown in ***Fig. 1*** will suffice for most amateur and SWL applications. Some people go to extremes, however. When I was a Novice ham operator in the late 1950s there was a senior ham ("two-letter call") named Abe in our neighborhood.He made his living building houses, so had built his own. When he had the backhoe dig the basement and foundation footers, he also had it hog out a subterranean alcove for his special breed of "ground rod." Abe placed an antique copper or brass bathtub in the hole, and then covered it with earth when he back filled against the foundation. Of course, the future monetary value of that buried antique bathtub was not a consideration to a died-in-the-wool ham operator!

Another chap went to his newly built house before the sod was laid down. He installed a grid of bare copper wires spaced about one yard (36-inches) apart. At each crossover juncture the wires were silver-soldered together. At the entrance of the house where the ham rig's wires would emerge he installed a series of six eight-foot ground rods arranged in a triangle like the Greek letter delta (D) when viewed from above. Both of those approaches may be a bit of overkill.

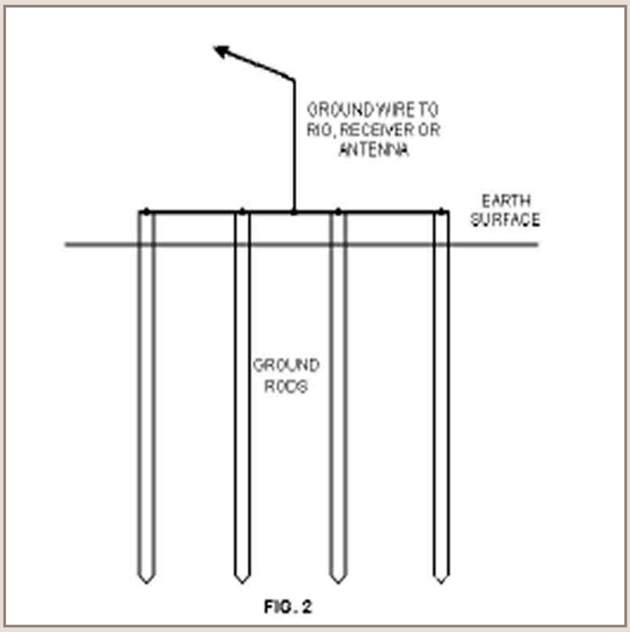


FIG. 2

The wire clamp is a special fitting intended to fasten the ground wire from the receiver, transmitter or antenna to the ground rod. The clamp is a collar that goes around the ground rod, and has a set screw on one side. When the set screw is tightened it forces the wire tightly against the pipe.

A lower RF resistance can be obtained by using multiple ground rods (***Fig. 2***). This system is recommended by some lightning protection experts. Each ground rod is the normal 8-feet long. They are joined together at the top by a heavy copper wire that shorts all four rods together. The best operation is afforded when there is a spacing of 1 to 3 yards between rods. This spacing argues for the triangular or circular pattern, rather than the inline. You will find such systems discussed in books on lightning protection.

The Hard Cases

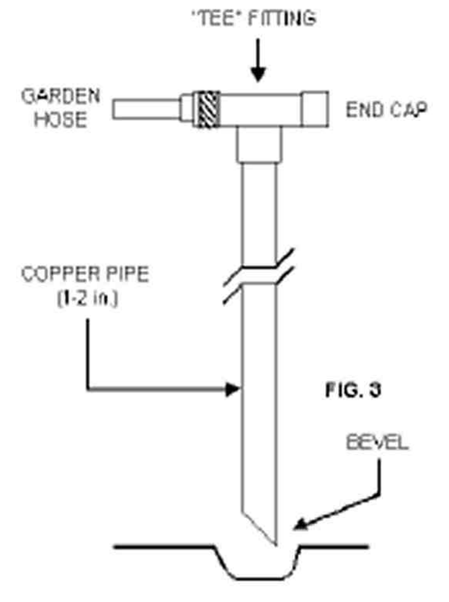


FIG. 3

I live in northern Virginia, where my cattle thief ancestors settled after being run out of Scotland before the American Revolution. A large amount of land in this area consists of an overburden of good, rich soil...about 12 to 36 inches deep. Underneath that wonderful soil is a couple meters of white marine clay that is as hard as nails. When I moved my family into our first house, I attempted to install an eight-foot copper clad steel ground rod beneath the window where my ham shack would be located. After three hours of unaccustomed hard labor my son ran into the house yelling "...Mommy! Daddy's using those words again!" That marine clay would not budge!

Some years later, when I built an addition on the house, a contractor lost his shirt on digging the footers for the concrete slab the addition rested on.

He bid the job assuming that two laborers with shovels could dig out the required 28-inch deep by 12-inch wide trench in about three hours. It took two days...pick and spade work against that marine clay for the last few inches.

Later, before I tried to install another ground rod, I got some advice from a reader of one of my magazine columns. He recommended using a homebrew water drill (***Fig. 3***). The “drill” is a 1.5-inch diameter copper pipe (plumbing pipe will do), bevelled at one end by a hacksaw. At the other end a “tee” junction is sweat soldered. One side of the tee is fitted with an end cap (also sweat soldered). The other end is fitted with a standard nipple for a garden hose. By placing the beveled end into the soil, and then turning on the water at its 5 highest pressure, the pipe was able to slip into the ground at a rate of about half inch per second. Slow, but one heckuva lot faster than the “bang-bang” method.

Artificial Ground Tuners

Sometimes the reason why a ground is not so good is that the ground wire is too long. Any time the wire is an appreciable fraction of one wavelength, it will be a poor ground at least on some frequencies. One approach is to insert an artificial ground tuner between the ground side of the antenna tuner or transmitter. The artificial ground tuner consists of a series resonant tank circuit and an RF ammeter. The tuner is adjusted to maximize the flow of current in the ground wire.

Counterpoise Grounds

A “counterpoise” ground (***Fig. 4***) is one that is an artificial ground plane. The vertical antenna is familiar to most ham operators and SWLs. It consists of a vertical radiator (usually, but not always, quarter wavelength long). The center conductor of the coaxial cable feedline is connected to the vertical radiator, while the shield is connected to ground.

In some cases, especially if the vertical is mounted above the surface of the Earth, a “good ground” is virtually impossible. As a result, antenna installers use a system of radials (***Fig. 4***), each quarter wavelength long, all tied to the ground point of the vertical, as the counterpoise ground. Use at least two radials per band, although the more the merrier. Medium wave AM broadcast stations in the USA must install 120 radials to comply with engineering standards, but ham/SWL sources usually recommend sixteen or less. The reason is that it is a lot of effort to install more than that, yet there is a “knee” in the performance gain experienced over that number so a “diminishing returns” situation exists. The radials can be either perpendicular to the radiator element or, as shown, they can droop up to 60 degrees from horizontal.

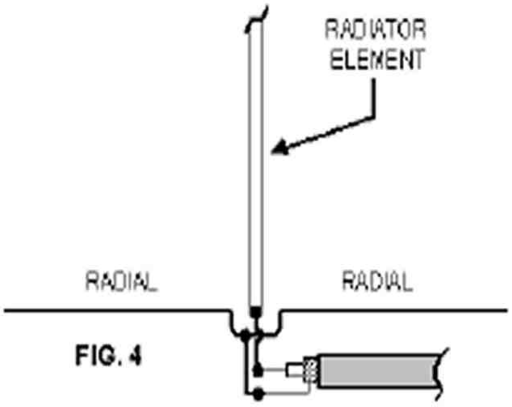


FIG. 4

It is also possible to install the radials on the surface, or buried a few centimeters below the surface. The latter is preferred for safety reasons. Pedestrian traffic in the yard can easily trip over the wires laid on the surface. Indeed, it could be you! In that case, while you are waiting for the emergency medical technicians to arrive with their splints, bandages and ambulance, you can hear your kid say: “Mommy, what’s those words Daddy’s yelling?” To which mom replies: “He’s inventing new curve words.”

Figure 5 shows the method for connecting ground level or buried radials. The ground rod is a standard 8-foot or longer ground rod (again, copper clad steel). The radials are fastened under a wire clamp. Either the same one as the ground wire to the antenna and/or rig can be used, or a separate clamp provided.

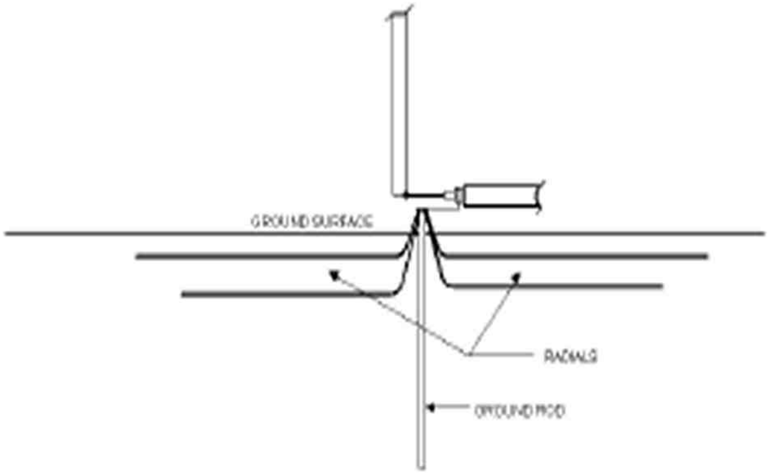


FIG. 5

The same ground system can be used for nearly all Marconi style antennas, not just verticals.

Lightning Arrestors

Lightning is not attracted to radio antennas unless the antenna is one of the highest points around. Unfortunately, that's where antennas work best: up high. Because of this problem, it is necessary to provide some protection against lightning strikes.

Get one thing straight right away: a direct hit on your antenna will destroy the antenna and the radio equipment connected to it. It might also set fire to your house. No amount of protection will guarantee that no damage will occur, but you can mitigate the damage by taking certain steps. Also, a lightning bolt need not strike the antenna to damage radio equipment. A lightning bolt that strikes the ground nearby, or strikes between two clouds overhead, will produce a high enough electrical field to put very high voltage spikes into the receiver front-end. Older vacuum tube equipment was relatively immune to such transient voltages, but modern solid-state equipment is sensitive.

All antenna installations should have a lightning arrestor either in the feedline or at the base of the antenna in the case of verticals. Your radio dealer can sell you approved types. The lightning arrestor should be installed outside of the house, and be well grounded.

Note: *In many cases your homeowners insurance may not pay off in the case of lightning damage if you failed to use an approved lightning arrestor properly installed. Some companies also require that the installation be inspected by the local government electrical inspector.*

Conclusion

If you follow the principles discussed in this paper, you should achieve a good ground, with the expected improvement in the performance of receivers, transmitters and antennas.

Best regards.

The History of Torre Bert
From Astrosurf

PART 2

Analyze and reactions

What to think about these alleged "tovaritch kosmonautov" in distress ? We know indeed that some Russian crews and even a dog, Laïka, died during the first missions but these news facts reported by the Judica-Cordiglia brothers are unknow from archives. The sole sources converging in this direction are... TASS and the Chinese Space Agency that recently claimed that the Soviets launched and lost several "secret cosmonauts" before and after the flight of Gagarin. Who can ever confirm these facts ?... We need proofs and evidences, not speeches !

The records made by Judica-Cordiglia brothers highlight another problem. At the beginning of the space conquest, heartbeats rate and breathing were never transmitted to ground stations using the audio downlink, there was only one case, in 1979 by Salyut-6.

On the Vostok-1 and Voskhod-1 orbiters for example used in 1961 and 1964, these biomedical data were transmitted through the telemetry at 19,9994 MHz. Only audio contacts, like this one between Bykovsky and Krutchev in1963 where established on AM at 20 MHz with visual control on TV cameras transmitting images by shortwaves, then demodulated. Let's recall in a few lines how worked this communication network.

Short history reminder

First soviet space communications like the ones of the other nations were established on HF and VHF frequencies. The cosmonaut ensured a two-way radio communication link with soviet ground stations located at the Central Control Room in Moscow, at the cosmodrome, as well as at remote sites located across Russia : Novosibirsk, Kolpashevo, Khabarovsk and Yelizovo.

The radio communication links were carried out on various frequencies ranging between 9 and 20 MHz, as well as on VHF on 121.750 and 143.625 MHz. They never transmitted voice on higher frequencies. UHF bands were used to transmit telemetry during the Moon missions (e.g. on 768 and 922 MHz) while microwaves were used with transponders tuned on S-band between 2.8-2.9 GHz. Some landing radar installed onboard the first Luna spaceprobes worked also on X-band at 9.2 GHz..

To come back to Vostoks, the satellite tracking was carried out from ground stations on the HF frequency of 19.995 MHz or 20.008 MHz in FM mode. This channel was used for reliable contact up to distances of 1937 km (1204 miles). When the crew was out of this range an onboard tape recorder was used. The same frequencies could be also used for the audio but then in AM mode. No Soviet crew never worked in SSB mode, excepting the american Apollo crews.

Usually audio signals were transmitted on 20.006 or 18.035 MHz, sometimes on 17.365 MHz. Gagarin for example transmitted his famous comments on 19.995-20.005 MHz in AM mode, conversations that any listener could easily capture on a portable receiver equipped with a longwire antenna as soon as the orbiter was over the horizon.

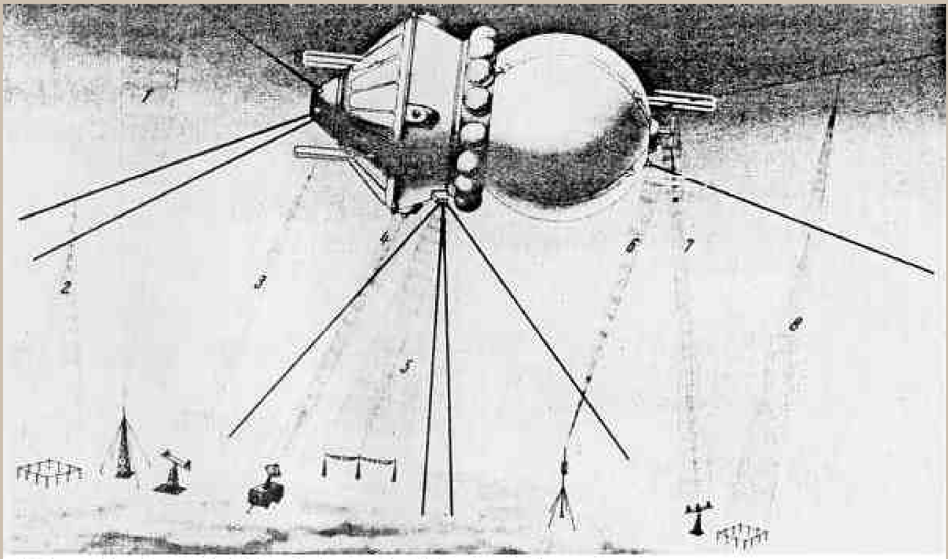
Beside the tracking and the audio channels, telemetric medical datasets were sent in FSK-PDM or CW-PDM mode. FSK mode is a very efficient method of transmission because, like CW, it uses a very narrow bandwidth (~1 kHz) and could easily be heard far beyond the horizon and through interference. At some occasions, FSK signals travelled all around the Earth thanks to ducting properties of the ionosphere layers.

The FSK-PDM mode was supplemented by the two TV cameras (remember videos of Gagarin), which provided a frontal and a profile view of the actions and reactions of the cosmonaut in orbit.

We can see on the drawing displayed at right that Vostok orbiter was equipped of four large stick antennas of approximatively one meter long, displaying thus broadband characteristics (tubing of large diameter), and tuned on VHF frequencies. From a CIA article entitled "Snooping on Space Picture" published in "Studies in Intelligence" in 1964, we learnt that these TV antennas worked on 83 MHz, thus the antennas were cut at l/4.

The telemetry was sent on 19.995 MHz or 20.008 MHz or a near frequency. Later, telemetry signals from Cosmos orbiters were sent at 66.2 MHz wideband (Cosmos 353, 1970) as well as on digital format at 19.150 MHz (Cosmos 376, 1970). A two-tone biomedical beacon sounding like CW was also transmitted at 19.948 or 19.995 MHz or a near frequency.

Sensors attached to the cosmonaut's body under the suit recorded pulse, respiration, blood pressure and electrocardiogram. It is obvious that these data cannot be transmitted by voice. There is however one mission at least during which the voice channel carried out biomedical data; on May 11, 1979 Salyut-6 transmitted electrocardiograms on the voice channel on 121.75 MHz. But at that time Torre Bert was already dismantled for a decade.



Drawing, which source is unknow, showing the various communication links installed on Vostok orbiters. The four large sticks set up at the ends of the orbiter ensured TV transmissions and maybe other services with ground stations in VHF frequencies. Clic of the drawing for the legend associated to each number.

1. Transmission of operational telemetry from onboard the spacecraft
2. Reception of terrestrial broadcasting stations
3. Transmission of telemetry and television images from onboard the spacecraft
4. Measurement of the orbit of the spacecraft
5. Two-way telephony and telegraphy shortwave communications
6. Command reception
7. Two-way VHF telephony
8. Transmission of operational telemetry and telegraphy information during the landing phase

About the antennas and frequencies

In some interviews, Gian Battista Judica-Cordiglia said that his dipoles arrays were not very efficient. If we check the building (see previous page) it is a fact that the gain could never reach high values. The "parabolic dish" 12 meters wide looks more like a plane surface - and it is - or even more to a ground plane antenna ! Radiation pattern was directional of course, but with a wide open lobe and vertically polarized... Not much relations with space communications, excepted that it is tilted on its base to track easier satellites crossing the sky over northern Italy. According to Judica-Cordiglia brothers, this antenna was modeled after one used by a NASA tracking station in Africa and was modified after the initial trials.

Remember however that Torre Bert used also an helical antenna system placed at center of the "ground plane", more suited to capture satellite emissions on VHF bands as well as several other short VHF Yagis.

But even if the six stacked Yagis are well cut on the respective working frequencies, the complete system could not work on the alleged bands. Let's check each of them.

108 MHz was indeed a space radio band in the 60's for the US spacecrafts. 137 MHz also, this is a standard space frequency, mainly use by weather satellites.

405 MHz has never been a band allocated to space communications. It was a military band (Army), then shared with private services (today meteorology and medicine).

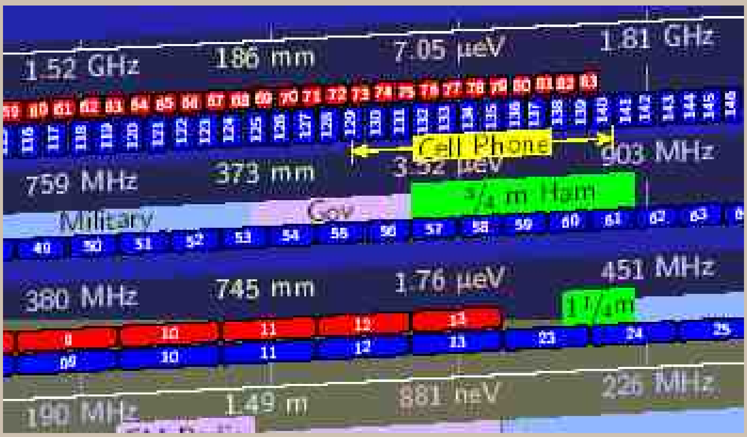
145.8 MHz at last, is a primary ham band not reserved to space communications. More, the facsimiles transmitted by Kosmos and other spacecrafts were sent on 163 MHz and on 183.5 or 183.6 MHz for the Luna E-6 serie probes... This last frequency was confirmed on April 8, 1963 in the article published in "Aviation Week & Space Technology" entitled "Soviets Launch Lunik 4" . In these conditions how Torre Bert could receive their so-called "APT-like" pictures on 145.8 ?

In addition, as far as we know, these lunar probes never transmitted image (ATP) during the approach phase but only after their soft landing.

Torre Bert needed also of a demodulator to process the ATP signal, then they had to re-compose the tape recording on a TV monitor, and from there, record the signal with a camera (plugged in aux or directly from the screen). Gian confirmed that this is well what they did but he didn't never extend on the frequencies used.

At last, and this will close the discussion, with their receive system there are few chance that Torre Bert was capable to pick up the weak signals sent with a power of 10 W by Luna-4 orbiting the Moon. It should arrive at their antenna with a power of only 0.1 microwatt, the equivalent of a loss of 80 dB !

With such losses it was impossible for them to receive slow-scan pictures from over 100 km away in such conditions. They 'd use many more stacked antennas using many more elements, equipped of efficient preamplifiers and very sensitive receivers. Only a radiotelescope or a very expensive amateur installations (EME) equipped with weak signal processing systems could ensure such tasks. In the 1960's only national agencies could support such projects and some fortunate radio amateurs able to build an array of some tens of Yagis steerable in azimuth and elevation.



Extract of the The Electromagnetic spectrum PDF file. The alleged 405 MHz band used by Torre Bert for space communication falls just in a military band... Even in 1961 they had not a chance to capture here the least audio, telemetry, video or APT signal from a spacecraft !

Sven Grahn works for the swedish space program and has recorded many transmissions from various spacecrafts since 1966 using commercial receivers and Yagis. He checked also Judica-Cordiglia brothers' claims, and does not believe either that Torre Bert recorded the sensational messages that they claim (dying cosmonauts, etc), or if they did, they have denied to explain him how they exactly proceeded for an obscure reason that has probably nothing to do with their work. For Sven, "such extraordinary claims require extraordinary evidence to be believed. The two brothers never have produced such extraordinary evidence, details about reception frequencies, log books, etc".

I did my own investigations too. In fact the few frequencies that Judica-Cordiglia brothers provided to inquirers are those publically released by Moscow, and thus nothing convincing.

From the pictures released in the press, and the scare interviews we had of the brothers, it is no any doubt that Judica-Cordiglia brothers emphazed their activities and that their network was poorly performing. As we told previously, this later fact was even confimed by the Gian Battista himself.

Even today, using a quarter-length vertical and a mid-range receiver, a hardware configuration probably close to the efficiency of their so-called Zeus network, an european amateur will experiment much difficulties to reach another station located in Angola, Argentina or Tahiti where Judica-Cordiglia brothers claimed have contacts in the years 65's. If they worked with such gears, the results was probably not very convincing, mainly in phone, excepting if their worked in CW or RTTY mode, more suited to pass through QRM and the other difficulties like QSB (fading).

But in 1965-1966 when the Zeus network was active, the Sun activity was quiet ! The Sun reached its minimum activity, with a Wolf number less than 30 as confirms this graph extracted from the Word Data Center for Sunspot Index in Belgium. The propagation conditions to the South hemisphere was thus poor at daytime, and at night, the MUF must not be higher than 7 MHz or even less, closing all upper bands to DX.

In the 65's, nowhere on the roof of Judica-Cordiglia brothers' House in Turino there were the appropriate cumbersome HF antennas to contact these stations by shortwaves. No vintage picture taken during that period shows a Marconi vertical, a ground plane, a dipole or a beam antenna cut for HF frequencies to work these remote stations. Nowhere in their tracking station there was a mike or a key connected to an HF transmitter, there was only telemetry and other receivers.

Sven Grahn did a study of Torre Bert claims and does not share at all their enthusiasm.

It is surely not in using their VHF dipoles arrays that our two brothers worked these DX stations sometimes located 15000 km away. There were large antennas on the roof of their Turino house, but in the 90's only, as we can see on the picture displayed at left. We see several VHF antennas and what looks to be a ground plane vertical cut at l/4 or so but of short size, not efficient for DXing. The two brothers never confirm either that they were licensed radio amateurs; they have never provided any license to anybody. Strange organization for a so-called international network.

The Zeus network probably existed well, I don't know if it was really efficient, but it worked only one year and probably outside the amateur bands and without permission or only for listening purposes. It was managed by Gian's fiancee Laura, today became his wife. If they infringed the law in emitting without license that could explain its suddent stop, all the more that it seems that the two brothers were still students at that time and could not ruin their studies. In the best case they were only listeners of HF and VHF bands like many SWLs.

The rumor

It is very easy to build a fake story or to make information retention, and let the time play in your favor in releasing from time to time a bit of information or peacemeal documents, or to pretend that the Italian intelligence confiscated all pictures, even if this is partly true. It is also very easy to get the support of friends and reporters who share ideas similar to yours about the so-called conspiration and disinformation maintained by authorities.

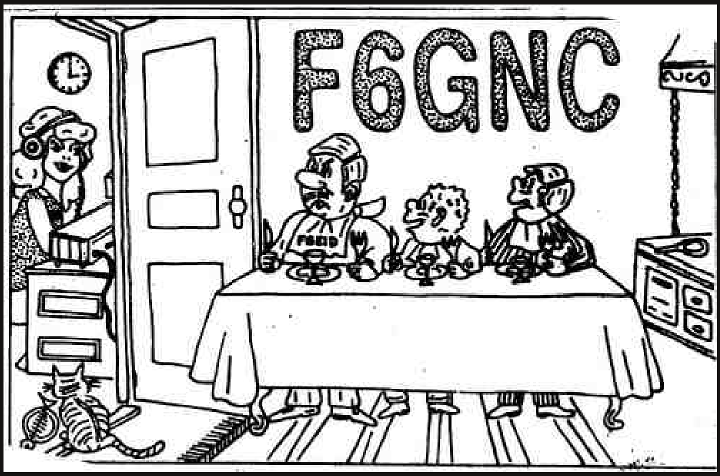
Such cases count by thousands, specially in the field of ufology and paleontology, and the web, out of any control, is the perfect place to create a rumor and amplify such phenomena up to a world scale through dedicated websites. To complexify a bit more this problematic, as I introduced, in April 1965 J.D. Radcliff published the Torre Bert story in the "Reader's Digest". The text was addressed to a general audience and mainly to youngs. It was translated some months later in French and many other languages, and reprinted in their annual album. This is at this occasion that I discovered this story that partly encouraged me to become amateur radio. "Fate" magazine and the "Washington Post" published also those alleged claims. If these publication influenced me at that time, these three famous magazines are probably not without have produced a big impact on many readers too, amplifying what is today considered as a rumor, because never confirmed.

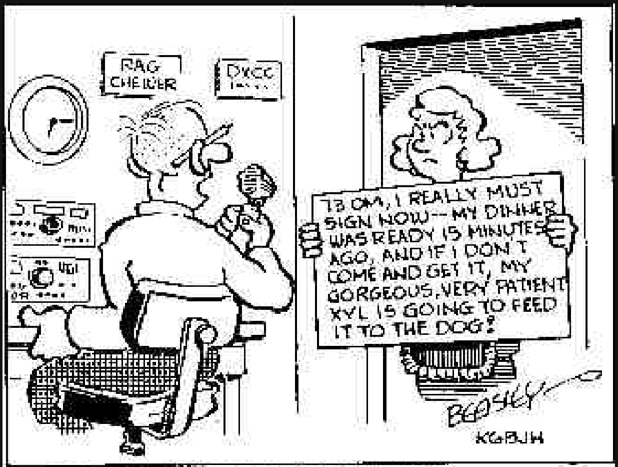
To be continued

COMIC'S HAM

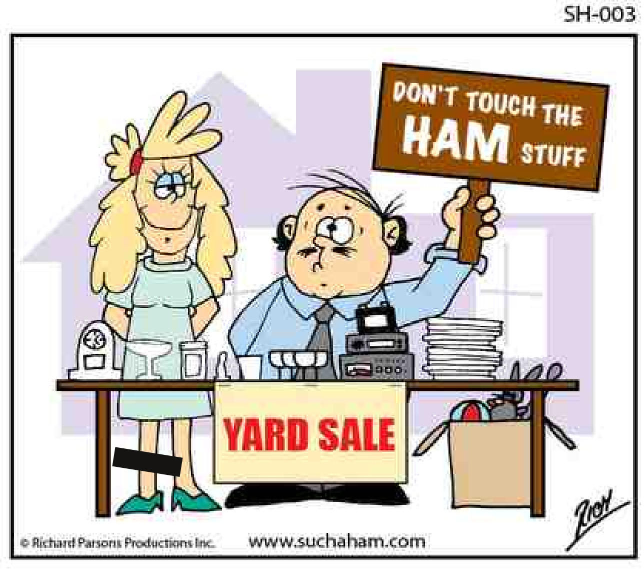
Have some fun...

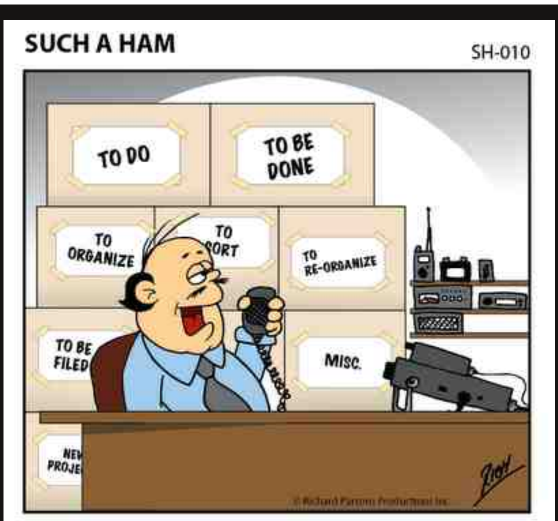
Hams 'n cartoons



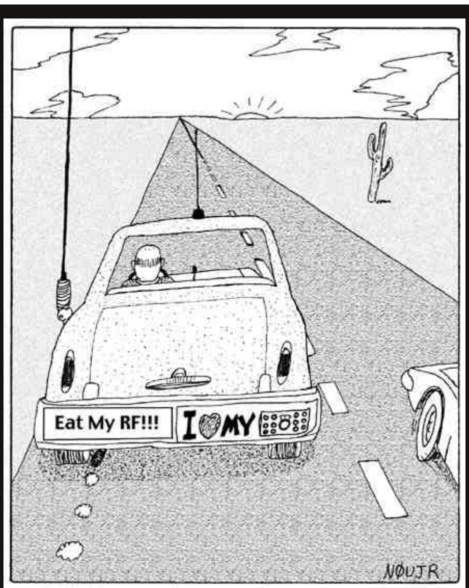

RAG CHEWER
DXCC
73 OM, I REALLY MUST SIGN NOW-- MY DINNER WAS READY 15 MINUTES AGO, AND IF I DON'T COME AND GET IT, MY GORGEOUS, VERY PATIENT XYL IS GOING TO FEED IT TO THE DOG!
BEASLEY
K6BJH

—73 O.M., I REALLY MUST SIGN NOW– – – – –





I've always believed in prioritizing my projects in the HAM shack.



QCWA members with an attitude...

HAM-MAG N.15 - APRIL 2010

Chief Editor : Vincent Faucheux F5SLD

Design & conception : V.N.A.C.E.

This issue does exist thanks to : KA5DON, N9ARI, SM3CVM, OPDX, OZ6OM, UU1CC, VK2GOM, VK2ZAY, , Astrosurf, Dan, Joseph Carr.

Send your informations to : f5sld@free.fr
Website : http://www.ham-mag.com

This magazine has been sent to 190 members

HAM-MAG

The first free & monthly E-magazine for amateur-radio, SWL...

NUMBER 1
FREE ISSUE

JANUARY 2009
http://www.ham-mag.com

WELCOME !

Welcome to the very first issue of ham-mag in english.

I want to wish you a happy new year 2009 and hope this free magazine will be appreciated by all the OM.

For the short story, I made the french version of HAM-MAG in september 2008. After 3 months and 13 issues, there are more than 3,100 subscribers all over the world.
But some readers wanted to have an english version.

It's done !

But to live, this magazine needs you.
We need your help, your informations, your articles, your ideas, etc.

This first issue is in test. For the next numbers we need some gazoline.
And that's why it's a monthly magazine for the beginning, Actually we have not articles enough to offer a weekly magazine.

The success will also come by the number of subscribers.

Don't forget, it's totally free and you have nothing to do. Just wait and you'll receive your issue in your e-mail box without ads.

For example, in the french version of the Website, we are able to offer now :
- Classified advertisements
- A gift (software) to download every week

Why not for the english website ?

So dear YL and OM. I send you again all the best wishes for 2009, happiness - health - prosperity !

Best 73's !
Vincent FAUCHEUX - F5SLD
HAM-MAG

1 workday, 364 days of holidays !

HAM MAG N.1

JANUARY 2009

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Thanks to : **HB9HFL, ON6MU, IZ7ATH, VK2ZAY, YO4PX, YO9FNR, K6LCS**

Thanks also to the retailers who believe in this magazine, to all the donators and OM who sent helpful messages.

You can contact us by E-Mail : ham.france@free.fr

Our websites :

http://www.ham-mag.com (English)
http://www.ham-mag.fr (French)

This issue has been sent to 660 subscribers

VHF 1/2wave vertical antenna for the 6-meterband (50 Mhz)
By ON6MU

1/2 wave antenna principle

A much better type of antenna then a simple quatre wave and that has more gain is the 1/2 wavelength vertical. We know that the impedance of the 1/2 dipole is 70 Ohms when we attach the coax in the middle, but what if we were to attach our coax directly to the end? The impedance at this point is high, very high, so we must make a matching device to match the antennas impedance to the 50 Ohm coax. What would happen if we did not use this matching device? Well...you would know that this would result in a very very high SWR.
The bandwidth of these antennas are good, they can easily span the entire 50Mc band and more with a low SWR.
The antenna and ground are connected across the tuned circuit while a 50-ohm coaxial cable is connected to taps on the inductor. The tuned circuit presents a high impedance to the antenna and the tapped inductor steps this impedance down to 50 ohms. Adjusting the tuning capacitor tunes out slight reactance variation if the antenna is not an exact electrical half-wavelength.

Parts list

4 pieces of 1 meter alu or copper tubing:
- one 18 mm diameter
- one 15 mm diameter
- one 12 mm diameter
- one 10 or 8 mm diameter

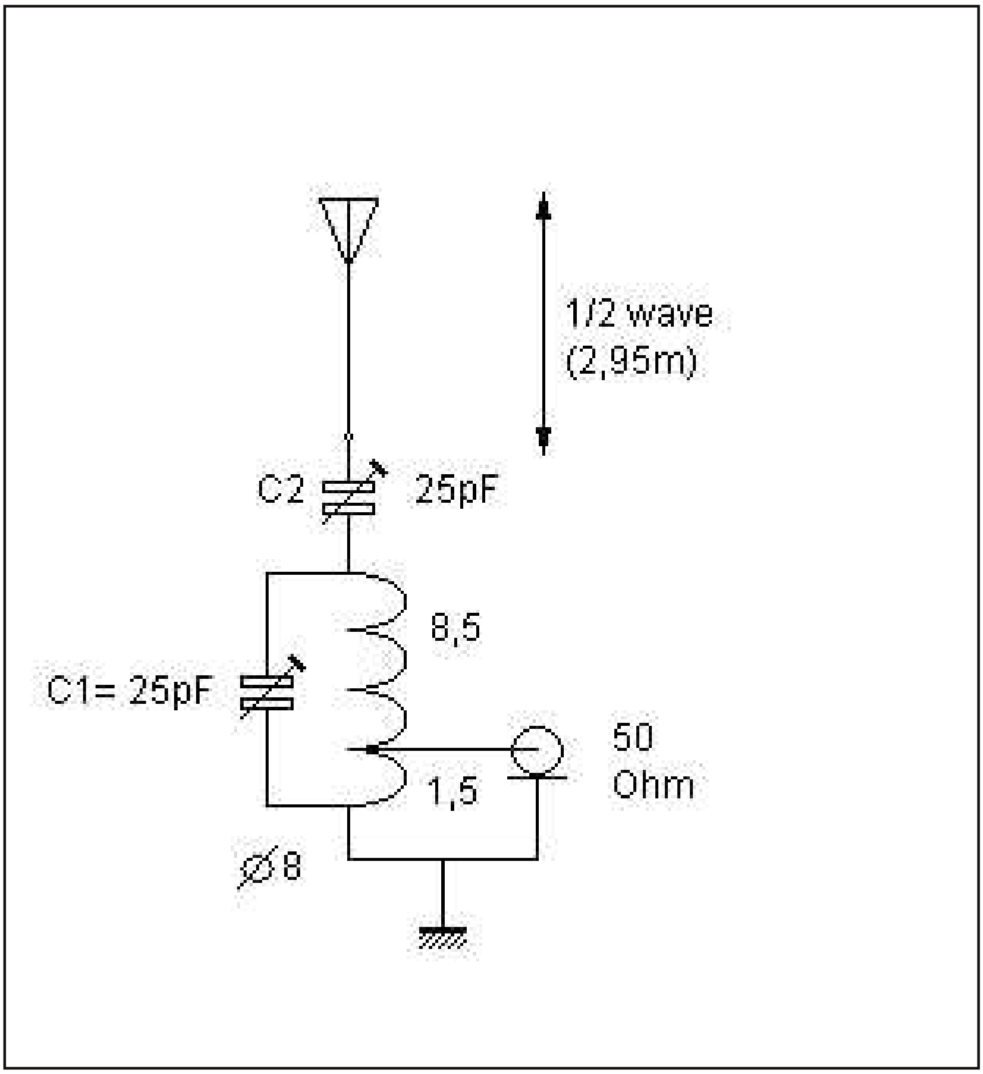
1 female PL 259 chassis

some cul wire (isolated wire like from a transformer etc.) of 0,8 mm thick
a coil holder of 8 mm diameter
two 25pF regulable capacitors
A robust PVC box of approx 30x50x18 mm and 2mm or more thick

a piece of hard insulating material that snuggly fits inside the base tube, like:
fyberglass, nylon, hard pvc, hard wood, bamboo etc... as long as it's very strong, stress and weather resistant.
and a few innox hose clamps

Note: there are many ways to build your antenna and I'm sure some can come up with better mechanical designs then described here although the design and material used here is cheap and easy to find. Also, the diameters of the tubing described here is not too critical.

Schematic



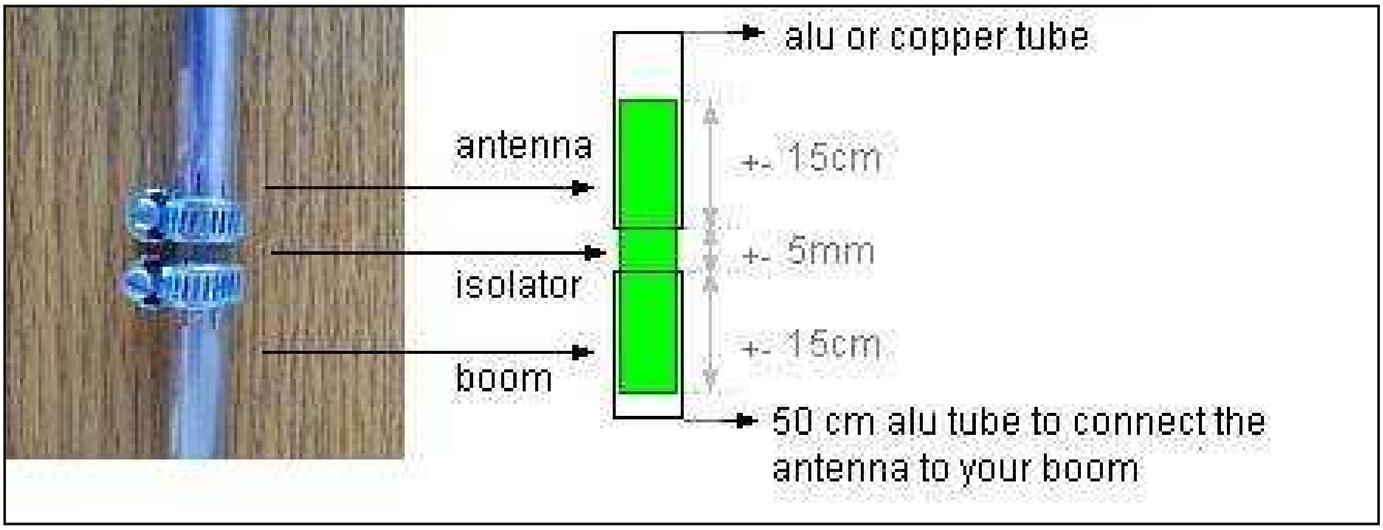
The antenna

Construction:

The vertical itself is constructed out of four overlapping sections of aluminum tube whose sizes are given.

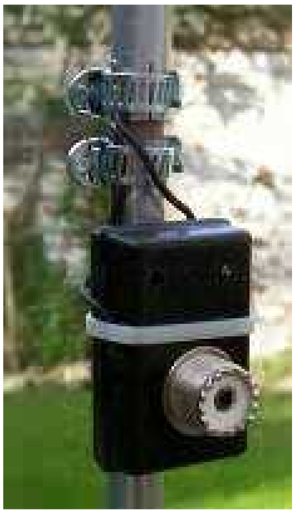
- saw the 1 meter 18 mm alu tube in half. One part (50 cm) will be used as a boom and the other as the first part (also 50cm) of the antenna.
- saw some grooves (approx 1,5 cm) in both halves of the tube to allow a hose clamp to tighten everything up.
- same goes for the other tubes that fits inside eachother. All tubes are firmly fixed together by using hose clamps.
- Measure from the base up 2,95 meters. You can alwyas tune the antenna to its best SWR by sliding the top tube in or out.

- saw a piece of that hard insulating material of your choice and fit it 10 cm in the antenna and boom part and leave a gap of 3 mm between them.
- hammer down one end of each of the 3 radials (3 x 22 cm) so it becomes a bit flatten. This will make things easier to screw tight with the hose clamp. These radials are fitted on the boom section.

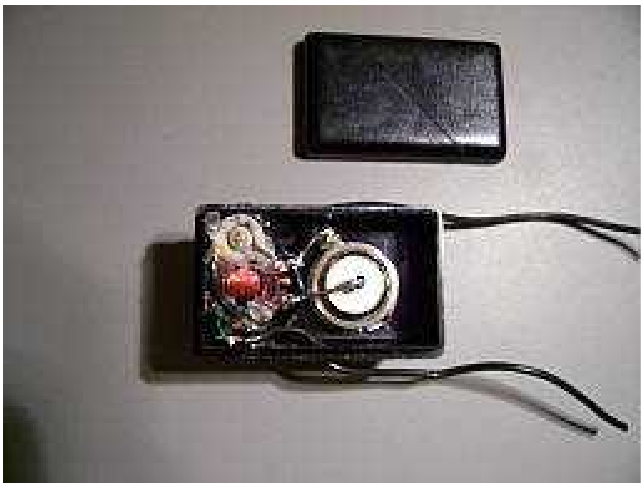


The little black box:

Here is where all the secrets are stored HI. I used a little plastic box where I placed the LC-circuit and the PL connector.
I also drilled two little holes where you can regulate the two capacitors with an little isolated screwdriver. Afterwards you can seal the holes up to prevent moisture from entering the box.



The LC tank-circuit:



- Wind 10 turns of 0,8mm cul wire around the 8mm coil holder and make a tap at 1,5 turns. There is no spacing between the windings.
- The smallest part (the "cold side" 1,5 turns) of the coil is where your centre part of the connecor/coax is connected to. The above schematic shows how.

As you can see there are two wires comming out of the box (which contains the LC): one for the antenna and the other for the ground (being the connecting boom piece).
Connect the wires accordingly and be sure to seal everything up.

Tuning :

- Get your old (t)rusty SWR-meter and and some 50 Ohms coax and connect your transceiver to it.
- Set the two capacitors to halfway to start with.
- Mount your antenna temporary 1,5 meters from the ground for the first tests and measure the antenna length (the boom piece NOT included) at 2,95 meters and try to ground the boom.
- Find a CLEAR frequency and set your transceiver to MINIMUM possible power and use a carrier type modulation (CW, AM, FM).
- Tune C1, which is the most important and critical capacitor, till the SWR gets a s low as possible on your desired centre frequency (51 Mc)
- Then tune C2 till the SWR is even more lowered or even 1:1.
- Repeat the last two steps at location if needed
- Fine tuning your antenna can be done by sliding the tubes in or out. Sometimes when your place your antenna higher or when the antenna has obstacles in its proximity the SWR can vary from the one you noted first. Raising or lowering the length of the antenna should fix it.

Specifications 6MU Vertical Antenna

Total length (including the 50cm mounting boom piece): 3,5m (2,95m effective)

centre frequency: 51 Mhz

bandwidth: 2 Mhz

maximum tunable frequency range: 49...53 MHz+-

impedance: 50 Ohms

Gain: 3,6 dBi

Maximum power using the components described: 20 watt

NO counterpoise or radials needed if the boom is grounded or the boom length is >= 1,5m

DC grounded (no static buildup)

Height: 2,95m

The American Radio Relay League, Inc.

DX CENTURY CLUB

This Certifies that

Has this day submitted evidence to the American Radio Relay League showing two-way communication with other amateur stations in at least one hundred different countries. This certificate recognizes outstanding performance and attests to membership in the DX Century Club.

6 Meters

#

If needed, it can be disassembled into a very small bundle no longer than the longest element.

Be sure to seal everything up to avoid moisture, corrosion etc.

73's from ON6MU

O.M. OF THE MONTH
HB9HFL - GIO

I was born in Italy, near Torino, in 1951. Came to Switzerland in 1967, and studied electronics at the "Ecole d'ingénieurs" in Geneva.

Amateur radio license since 1966 with the Italian call I1CJG and since 1993 with the Swiss call HB9HFL.

Now working in the the Systems Engineering, data acquisition and telecommunications with the Federal Office of Meteorology and Climatology (MeteoSwiss). Responsible for the national network of meteorological measurements ANETZ.

My hobbies are radio (HF-VHF-UHF, DX, Mobile operation, Digital modes, Construction of equipments and antennas, Satellite...), photography, computers, modern- languages and I'm active in human rights (Amnesty International and Unesco).

Younger, I traveled in some of the European countries, the USA, Africa... Now I tend to stay put...
Well, I wish you all the best and good luck!
Best greetings from Switzerland.
Giovanni / HB9HFL

AMATEUR RADIO, A HOBBY WITHOUT FRONTIERS
BY GIOVANNI CONVERSO, HB9HFL, SWITZERLAND

What is amateur radio?
Who are the radio hams?
How can they communicate on the air waves in this” internet” era ??
The following article attempts to answer these questions. Ham radio is also a token of friendship and of real-life experience. Technique alone would not suffice if not directed by inner feelings…

Nowadays radio communication has become so common that no one is surprised to hear, by simply pressing a button, a radio broadcast... But only few know that it was discovered by the first radio amateurs. In fact, it was in 1896 that the most famous radio amateur of all, Guglielmo Marconi, acquired his first patent for a wireless communication system. Radio was born

For more than a century people have been communicating on the radio waves with home-made transmitters and receivers: they are the radio hams. They are men and women of all professions, all social status and all age groups, interested in radio and telecommunication techniques.

Radio amateurs can establish contact with other amateurs’ world wide, they can discuss, communicate by telegraphy or teleprinter, exchange e-mails, pictures, files, etc., in the bands of radio frequencies specially assigned to them.

Radio amateurs are authorized to build their own equipments and to experiment with all types of antennas. They transmit either from home, in the car, boat or plane, or during a mountain race. In mountains they install relays to transmit their messages. Satellites built by radio hams encircle the earth...

The radio amateur hobby is a powerful means of bringing people together, without race, colour, nationality or religious discrimination. I would like to relate a personal experience lived thanks to the radio.

This story began on the 13th March, 1997 at 6 o'clock in the morning, when I was exploring the amateur bands of my receiver. Suddenly a very weak signal caught my attention. I put on the headphones and concentrated intently on this small voice that repeated some words, then disappeared in the background, then reappeared seconds later. After some very careful tuning of the receiver, I recognised it was a radio amateur.

Quickly I turned on my transmitter and tried to call him in English. The contact was difficult as propagation conditions were very bad. I understood with difficulty the name “Ivo” and the country: Croatia. It was difficult to continue the contact so we decided to try again the following day, early in the morning, on the same frequency (3.753 MHz).

After a few radio contacts with Ivo, always very well appreciated despite reception difficulties, I learnt that he lived in the centre of the city of Dubrovnik and that he had only a very modest antenna, just a few meters of simple wire.

I also learnt that Ivo was blind and had suffered a lot during the war that had destroyed ex-Yugoslavia some years ago. I had a much sympathy when he spoke of his family and friends that he could not meet anymore, as all these people were located in another part of ex-Yugoslavia, to which access was forbidden to the Croatians. For Ivo, the only means of communication with them was his radio, as the telephone was very difficult and costly, and the letter post did not work at all…

So it was necessary to improve Ivo’s radio station, starting with installation of a good antenna. Friends of mine and I decided to send him a dipole antenna. When the package arrived at Dubrovnik Ivo was immediately summoned to the customs office for explanations and justifications... He was very scared by the idea that they would confiscate this precious object. He went to the office accompanied by his daughter Katarina and friend Miro, also a radio ham. All feared the worse! Thank goodness, the radio amateur license was valid and Ivo, after signing lots of forms and going through more formalities, went home, his heart jumping for joy!

The next day he had to resolve the practical problem of installing the antenna. In fact, how to fix this relatively long wire (20 m) in this conglomeration of old houses with telephone lines, electric wires, water pipes, clothes lines, and all whilst being without his sight? Fortunately Miro and Katarina were there.

On 27th March 1997 at 6 o'clock in the morning, I tuned my receiver to the frequency of 3.753 MHz... A few seconds later Ivo’s voice appeared loud and clear. The contact was excellent!

The following days, Ivo made contact with the stations on the other side of ex-Yugoslavia, mainly with family and friends. With the new antenna, communication worked wonderfully! Much better than the telephone!

Ivo and I contacted each other regularly on the frequency of 3.753 MHz. We are not alone anymore. Several other radio amateurs come regularly to this meeting place of friendship and solidarity. (It is now known as The Euro-net.)

If you wish to know more about the different activities of the radio amateurs, visit the following Web Sites:

1) The radio club of Fribourg : http://www.hb9fg.ch
2) The radio station of HB9HFL :
http://www.qsl.net/hb9sin/hb9hfl1.htm

Good surfing and see you soon on 3.753 MHz...

Giovanni,HB9HFL

EARPHONE + MICROPHONE FOR CONTEST

By IZ7ATH

The idea to build this microphone cames during a contest in which I took part in mix-class: you always need one hand for the keyboard, one for VFO, one for the microphone / key and one needed to write partial calls : yes... But we have only two handes !

I bought an earphones+microphone used within PC for internet-chatting ($7); I connected it directly to my RTX but audio level was too low (anyway you need 6-9V) ;
so I built a pre-amplifier using a simple chip (TL082) with about 10 db gain; than the audio level was ok... In less than one hour the micro was ready ! I put the pre-amplifier in a small plastic-box using the 8V accessory pin on my RTX instead of a 9V battery, but I started having problems; vox was mad and audio distorted ! I spent one day to solve this problem and at the end..it was solved !
I added also two push-button (frequency UP/DOWN, useful in RTTY operation).

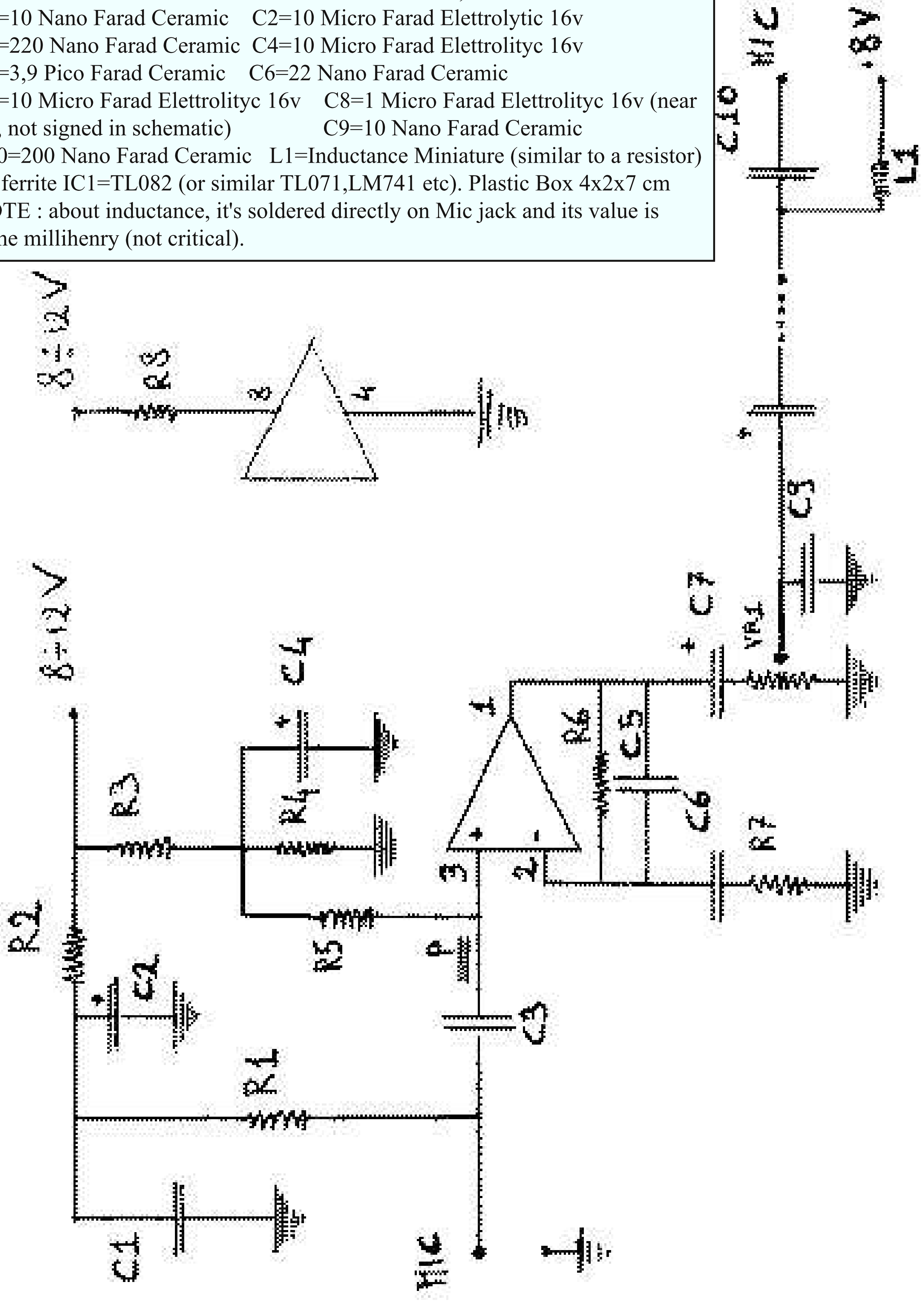
Componentes used are few; on the microphone-socket (audio pin) I mounted a 200 Nf ceramic-capacitor; on the 8V pin there is a few microhenry coil, connected to the capacitor and a ferrite bead: those help me to solve the above RF problems.
If needed, you can use the same chip as a high-pass filter.
Electric diagram is very easy: gain changes with R6; with this value it's around 15, if you make it lower gain will increase.
Mount the ferrite bead nearest to the chip input ;

Test the microphone in the following way :
connect the micro to your RTX; feed the micro with an external 9V battery; audio level should be low (if not way to build a pre-amplifier?) but clear; switch on the preamplifier (fed always with 9V battery); tune trimmer VR1 for a good ALC value; test your vox system; if all is ok, use the 8V pin on your RTX instead of 9V battery: problems?? I hope not !

Best 73's ! IZ7ATH
(See electric diagram on next page)

COMPONENTS

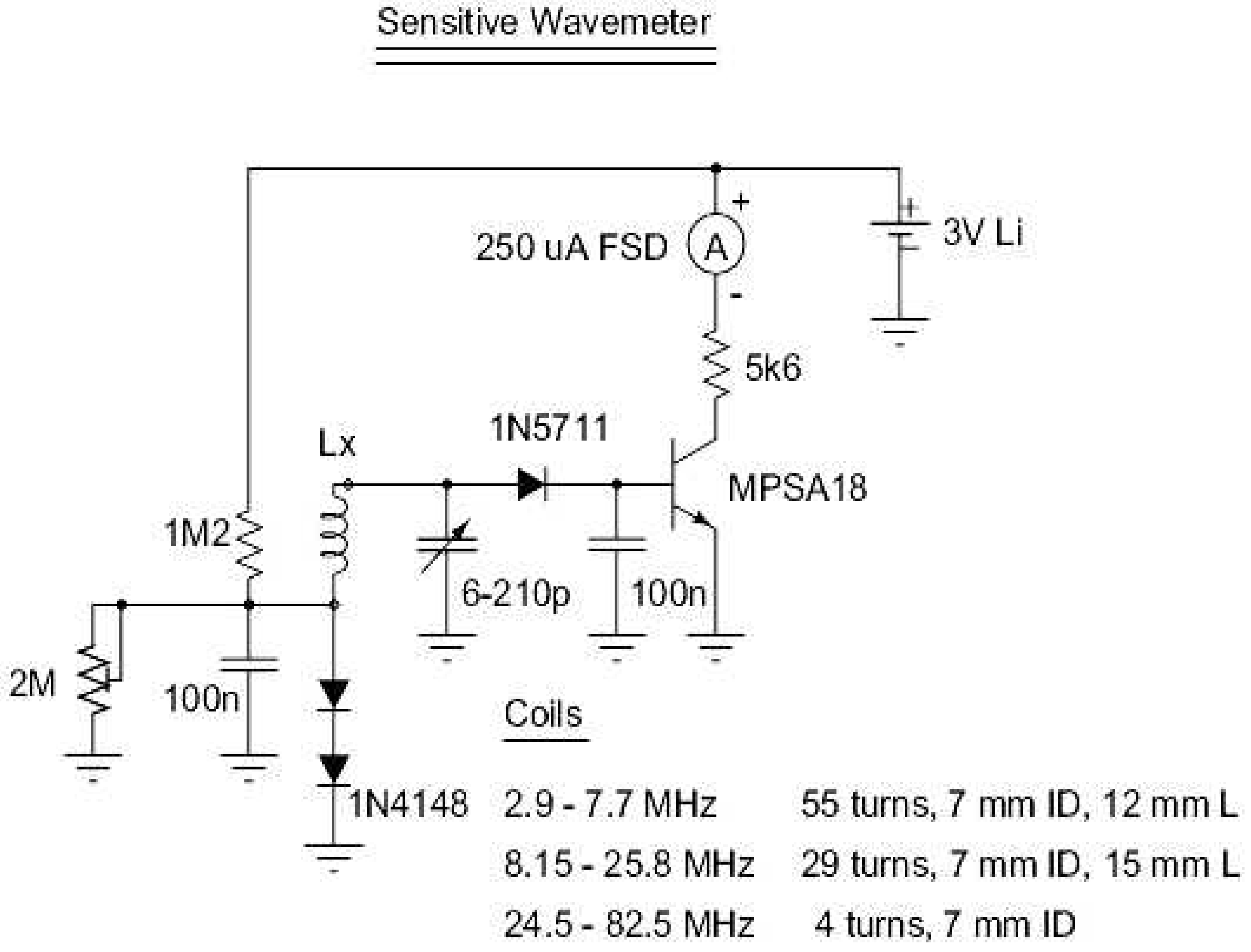
R1=1 Kohm R2=1 Kohm R3=10 Kohm R4=10 Kohm R5=10 Kohm
R6=47 Kohm R7=1 Mohm R8=100ohm VR1=4,7 Kohm
C1=10 Nano Farad Ceramic C2=10 Micro Farad Elettrolytic 16v
C3=220 Nano Farad Ceramic C4=10 Micro Farad Elettrolityc 16v
C5=3,9 Pico Farad Ceramic C6=22 Nano Farad Ceramic
C7=10 Micro Farad Elettrolityc 16v C8=1 Micro Farad Elettrolityc 16v (near C9, not signed in schematic) C9=10 Nano Farad Ceramic
C10=200 Nano Farad Ceramic L1=Inductance Miniature (similar to a resistor)
P= ferrite IC1=TL082 (or similar TL071,LM741 etc). Plastic Box 4x2x7 cm
NOTE : about inductance, it's soldered directly on Mic jack and its value is some millihenry (not critical).



HF Wavemeter
by VK2ZAY

Why build a wavemeter in these days of frequency counters, CROs and spectrum analysers? Well it is a lot cheaper than a spectrum analyser, easier to build and can still tell you if you have significant harmonic energy in your signal or that you've tuned up to the right harmonic or mixing product. It also doubles as a field strength meter, RF current probe/sniffer, etc. It is a fun, if somewhat retro way of seeing what RF something is pumping out, be it your prototype on the bench, or a proximity smartcard security reader in the field.

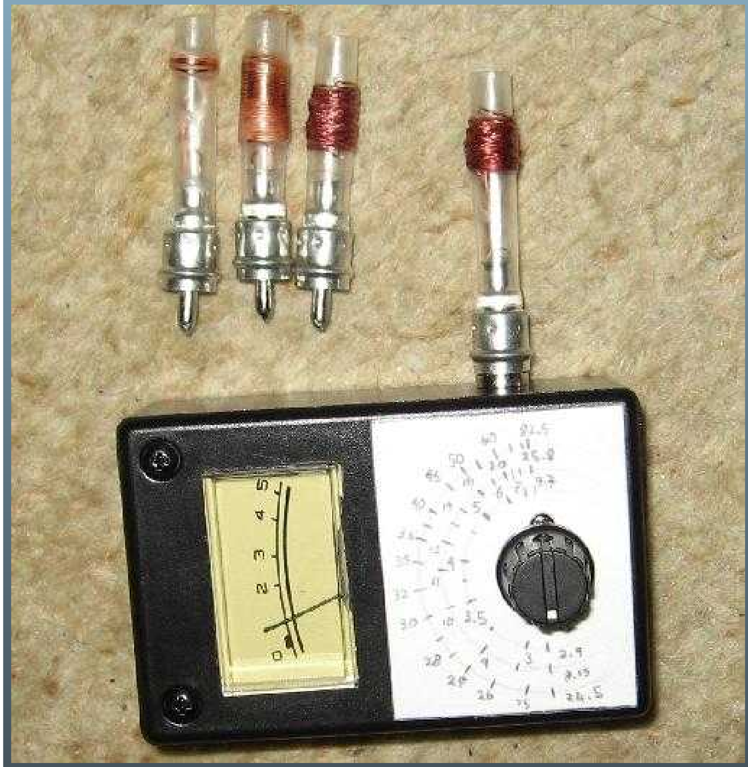
The circuit is heavily inspired by Charles Wenzel's field strength meter. It uses a diode dropper arrangement to provide a stable forward bias for the 1N5711 detector. The pot shown in the circuit diagram was replaced in the practical circuit with a fixed resistor, but using the pot offers the ability to set the quiescent current. The exact amount is a trade off between sensitivity and moving the meter pointer too much. Mine sits on about "1" on the scale when a coil is plugged in.



Coils

2.9 - 7.7 MHz	55 turns, 7 mm ID, 12 mm L
8.15 - 25.8 MHz	29 turns, 7 mm ID, 15 mm L
24.5 - 82.5 MHz	4 turns, 7 mm ID

The unit is constructed in a small jiffy-box, the 250 uA FSD VU meter taking most of the box volume. The meter comes from eBay seller KW Tubes, I bought a box of them. They are excellent, except they are glued shut so you can't (easily) change the scale, also the solder tags are nearly impossible to tin without filing them back to what appears to be a rather light on the copper brass. The power is supplied by a 3V lithium cell (CR2025). Current consumption is only about 10-15 uA when a coil is plugged in and no signal is being detected, it drops to less 2 uA when there is no coil plugged in, so no battery switch is required. The few components are mounted on a postage-stamp sized scrap of PCB using my usual technique. A polyvaricon tunes the coils and is fitted with a calibrated dial produced with the help of XYLs laminating machine. The PCB is mounted on the back of the polyvaricon internally with the common leg soldered directly to the board. The coil plug is an RCA, internally to which a short "transmission line" of magnet wire twisted pair runs from the detector board.



The coils are wound on 7 mm OD clear plastic soda straws (from Subway, they make great coil formers). Three coils are used to cover from 2.9 MHz to 82.5 MHz. There is a small gap near 8 MHz due to an excessive change in distributed capacitance when I potted the lowest frequency coil in wax. I had anticipated the problem and spread the turns out a little before potting, but the magnitude of the change exceeded the headroom I gave it. This could be easily corrected by removing a few turns.

The unit was calibrated using my signal generators and a frequency counter. Because of its fairly small size, the dial accuracy/detail isn't especially good, but for the purpose of checking harmonics, spurs and sniffing circuits this is of little consequence.

A better layout is recommended for extending the frequency coverage into higher VHF and UHF. Try forming the inductor as a thick loop that sticks out directly from the circuit board. Such a device could be custom built on a piece of PCB (and not much else except for the meter). In the opposite direction a larger capacitance cap would be useful, but there is nothing stopping MF coverage with the polyvaricon cap. In the picture the 4th coil actually plugged into the unit is a MF coil which covers down into the MW broadcast band (but the dial is not calibrated for it), it is about 150 turns over 10 mm on the 7 mm OD straws. You'd probably need at least two coils to cover all of MF nicely, and LF probably several more unless you get a better cap. A straight-line frequency cap (log cap) is strongly recommended for easiest use, unfortunately my stock of polyvaricons are straight-line capacitance (linear) so frequencies bunch towards the top-end. A larger knob or even a reduction drive improves the usability of the unit.

73's VK2ZAY

THE DX NEWS
From the Web (tnx opdx, Indx...)

4A, MEXICO

Members of the DXXE (Mexican Contest and DX group) are now active celebrating their 4th anniversary with the special callsign 4A1DXXE until January 6th. Activity will be on 160-6 meters CW, SSB and RTTY. QSL via N7RO and the LoTW.

CO8, CUBA

Eduardo, CO8LY, states that if somebody needs a confirmed QSL from Cuba, he is active on 160 meters also on others bands in PKS31, RTTY, CW and SSB. For a sked contact him by email : co8ly@frcscu.ciges.inf.cu

CU8, AZORES (Lighthouse)

Operators Antonio/CU8AS, Ruedi/HB9CQL and Hermann HB9CRV (CT3FN) will be active as CU8W from the Albarnaz Lighthouse (DFP FAZ-02, ARLHS AZO-016, TWLHD WLH CU-008) on Flores Island (EU-089, DIP AZ-008, WLOTA LH-0947) between January 19-23rd. Activity will be on the lower bands in CW and RTTY. QSL via CT1GFK.

CV5, URUGUAY

Lupo/CX2ABC, Julian/CX5BE, Pedro/CX5BW, Nelson/CX6ACY, Jorge/CX6DAP, Gustavo/CX7AT and Daniel/CX9AU will be active as CV5A from Isla de Flores (SA-030), on January 22-26th. 160 to 2 meters in CW, SSB, RTTY and PSK31. They will also active in the CQ 160-Meter CW Contest (January 24-25th) as a Multi-Op entry. QSL via CX2ABC.

E4, PALESTINE

An Italian group is active as E44M this week between January 1-11th. Activity will be on 160-2 meters using CW, SSB, RTTY and all the digital modes Team : Salvador/C31CT, Simone/IZ0BTV, Bello/IZ0EGM, Giorgio/IZ4AKS, Pasquale/IZ8IYX, Vini/IK2CIO and Leszek/SP3DOI. Operations mainly on digital modes. Web page : http://www.dxcoffee.com/e44m

FT5W, CROZET ISLAND

Florentin, F4DYW/FT5WO, is now active around 14120 khz. QSL via F4DYW.

HK, COLOMBIA

Cody, KC2LSD, will be active as HK3/KC2LSD between January 9-15th. Activity will be mostly at 2300z on 40/30/20 meters,

HS, THAILAND

Kurt, HS0ZBS, from Phanom Sarakham, East Thailand, is active daily until January 10th, using the OLIVIA Mode. He starts at 1100z, on 14106.5 or 14107.5 kHz, calling CQ for 10 minutes.

MD4, ISLE OF MAN

Operators David/G3NKC, Martin/G4XUM and Bob/MD0CCE will be active as MD4K during the CQ 160-Meter CW Contest (January 23-25th) as a Multi-Op entry. QSL via G3NKC.

CANADA - SPECIAL PREFIXES

Look for Canadian amateurs to use the following special prefixes between January 1st and February 28th to celebrate the 400th anniversary of Galileo using of optical instruments to inspect the universe. Also, please note that this year is the International Year of Astronomy (IYA). Some Canadian amateurs will exchange their prefixes as follows:

VE changes to CG VO changes to CH |For example: VE7DAO = CG7DAO
VA changes to CF VY changes to CI | VA3DAO = CF3DAO

The following are announced operations using the special prefix callsigns for the IYA:
CG3OIJ - Operator Darin, VE3OIJ; on 80m-70cm (WW Loc. FN25EJ). QSL via VE3OIJ, by the Bureau, eQSL or direct to: P. Darin Cowan, 674 Southmore Dr. W, Ottawa, ON K1V 7A1, Canada.), or CG9NC - Paul, VE9NC, from Hampton, New Brunswick; mainly on 20 meters on the Digital modes. QSL via VE9NC.

T8, PALAU (OC-009)

Hide, JM1LJS, is active as T80W until January 5th. Activity on 80 to 6 meters CW and SSB during his spare time. QSL via his home callsign. Web page : http://radio-dream.com/t80w

VP8, FALKLAND ISLANDS (YL Op)

An inter- national group of YLs will activate the Falkland Islands (SA-002) between January 17-31st. Each operator will be signing with the callsign "VP8YL*", where the third letter of the suffix will be assigned to each YL operator at beginning of the operation. YL operators mentioned at present include: Janet/VP8AIB, Chantal/PA3GQG, Unni/LA6RHA, Jeanie/WA6UVF, Mio/JR3MVF, Liz/M0ACL, Victoria/SV2KBS, Nicky/M5YLO and Ruth/IT9ESZ. The activity will be mainly on SSB, on all bands, but only 20 hours every day. QSL via operator's home callsign. Website : http://www.radioclubs.net/aa_vp8yl_/

YE1, INDONESIA

Members of the Bekasi DX Contest Club (YE1ZAT) will be active during the CQ 160-Meter CW Contest (January 24-25th) as a Multi- Op entry, the CQWW WPX RTTY Contest (February 14-15th) as a Multi-Single entry and the CQ WW WPX SSB Contest (March 28-29th) as a Multi-Single entry. Operators mentioned are Joz/YD1JZ, Danu/YD1GCL, Terry/YC1KAF, Yon/YB1CCF, Arif/YE1AA and Heri/YB1KAR. QSL via YE1ZAT, by the Bureau, e-QSL or direct (QRZ.com).

ZD8, ASCENSION ISLAND (AF-003)

Six members of the Cambridge University Wireless Society will active as ZD8UW between January 2-9th. Activity will be on the HF bands using CW and SSB. Operators mentioned are: Hugo/ M0HSW, Tom/M0TJH, Simon/G4EAG, Michael/G7VJR, Gordon/G3USR and Martin/ G3ZAY. QSL via G7VJR. The logs will be uploaded to LoTW.

DICTATORS AND AMATEUR RADIO

by Francisc Grünberg, YO4PX

Amateur radio was always contemplated by dictators with distrust and fear, as a suspect and potentially dangerous avocation. The ability to transmit messages over the barbed wire of the "Iron Curtains" and across heavily guarded borders, where weapons are pointed more into the country than out, was associated in the Romanian People's Republic, and in the other former or current totalitarian régimes as well, with the activity of spies on the enemy's payroll. In the dictators' paranoiac imagination these spies, disguised as radio amateurs, were trying to undermine the "heroic effort of the people for the construction of the new society": another name for the total control and submission of its citizens, the final endeavour of all régimes with socialist, communist, military, tribal or fundamentalist ideologies.

Risking the simplification inherent to any generalization, the degree of democracy present in a country is directly proportional to the number of its licensed radio amateurs, the liberties they enjoy and the administrative obstacles they may or may not confront. Today, an indication of such freedom is the absence of bureaucratic hindrances imposed on the importation of amateur radio rigs, getting a transceiver through customs at national frontiers, and the willingness to allow visitors' time-limited amateur radio activities.

Western democracies acknowledge radio amateurs' merit, as pioneers of the short waves to humanity's benefit and for the services they rendered and continue to render to their communities. Laws in these countries grant radio amateurs and their equipment freedom of movement and activity thanks to reciprocal agreements. The CEPT Convention provided a huge step forward as it simplified operation for amateurs of the signatory countries.

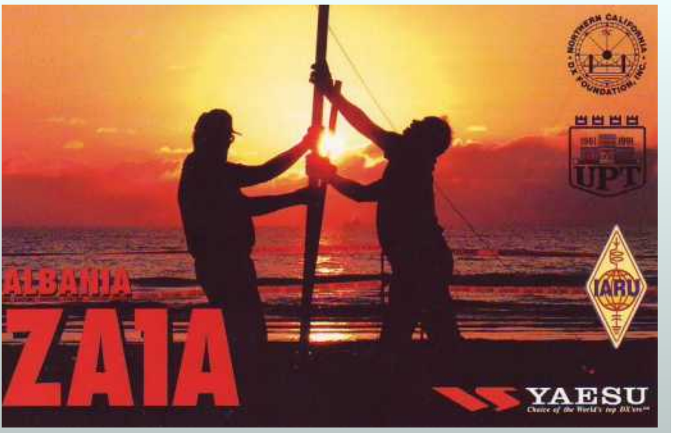
In Spain amateur radio is considered a form of art. In Güimar, Canary Islands, a statue was dedicated to amateur radio, with a syrinx (panpipes) representing the five (in 1974) amateur short wave bands. Many American presidents proclaimed amateur radio a national resource.

For whole decades BY1PK was the only workable station in China - until silenced by the infamous Cultural Revolution. Now we hear many BY calls and, on the VHF and LF bands, thousands of licensed QRP stations. No doubt the tenacious efforts of Martti Laine, OH2BH played a decisive role in this opening to the world.

After many years of silence in Saddam Hussein's Iraq, a single station, YI1BGD was licensed. This followed a demonstration by Erik Sjölund, SMOAGD, who made some 50 contacts before Iraqi officials who were amazed by the number of hams eager to contact a new country.

North Korea authorized only a few sporadic operations, the most productive being the activity of Ed Giorgadze, 4L4FN. He made more than 16,000 QSO's before the authorities shut him down. KA2HTV's recent failure doesn't offer much hope the situation will soon change.

Myanmar's (Burma) military junta is quite reluctant to issue licenses to foreign operators. But they are occasionally heard, especially when intended to convince the generals that liberalizing amateur radio could boost the country's image to a world concerned by human rights violations.


ALBANIA
ZA1A
UPT
IARU
YAESU
Choice of the World's top DX'ers

Contact with an Albanian station was an unattainable dream during the Stalinist dictatorship of Enver Hodja. Now there are some active stations thanks to powerful associations that championed getting a ZA call sign on the air after many decades.

In Poland all amateurs were forced to hand over their equipment following the imposition of martial law, inspired by the Soviet Union, in December 1981. General Jaruzelski stifled in bloodshed the protests of the trade union Solidarnos?, and the SP prefix was absent from the bands for almost two years.

Turkey for many years was prominent on the Most Wanted Countries List, now a few local stations and occasional visitors can be worked from TA-land.

Under the Taliban régime licensing a YA station was hardly conceivable in a country where the most elementary human rights were violated. Now hams working for international organizations are sporadically active from Afghanistan.

But where tradition is shattered, short instruction courses and donated gear cannot replace the passion and knowledge transmitted from generation to generation, from mentor to disciple, which ensures the perpetuity and development of the hobby. Hopefully, the spirit will reignite in Libya, Yemen, Rwanda, Iran, Sudan, Mount Athos, Somalia, Congo, Cambodia, Laos, countries and entities where amateur radio activity is inexistent or drastically restricted.

There are cases when the oppressive régime feels itself impregnable and magnanimously allows the licensing of a few "reliable" residents, intimates of the power wielders, for propaganda's sake to defend itself from the international amateur radio community's disapproval. Some dictatorships, after lengthy negotiations, authorize time-limited activities for foreign operators present as United Nations officials, NGOs or peace-keeping forces.

In Romania the dictatorial régime branded amateur radio as well. For 45 years the state of one's "dossier" was decisive in obtaining a license. In the 1950s those applicants who hadn't a "healthy origine" (i.e., originated from a family of workers or peasants) could experience huge difficulties, and not only in the realm of amateur radio. Family members living in the West, unfavourable information from the schools' secretary of the Communist Party, from the college or employer's "cadres office" (today's personnel office) regarding the applicant's lack of enthusiasm and attachment to the "Party Line," denunciations, containing mostly mendacious and misinterpreted information - all were grounds for denial without explanation of the application or suspension of a previously issued license.

Truly impartial historians of Romanian amateur radio should record its decades-long constraints as subordinate to the army. This practice followed piously on the heels of the Russian pattern. The Securitate (the former Romanian secret police) exercised relentless control of the licensing procedure through the so-called Higher Radio Commission, overseeing the entire activity of the radio amateurs, beginning with the assignments in leading positions in the county clubs and in the Romanian Amateur Radio Federation and ending with the accurate inventory of the equipment owned.

Romania 1974 25th Anniversary of Young Pioneers
Prepaid Postcard

In the 1980s the Radio Control Centres launched a series of residential inspections and license suspensions for varying periods of time. Was it merely coincidence that many holders of those suspended licenses were also members of reputable foreign clubs? This group included the most active and notable amateurs, authentic ambassadors of Romania on the air.

Yearly "informative materials" drawn up by the Securitate and presented with the force of "truth" cited "negative aspects," like "relations with foreigners" (regulated by notorious Law 23 requiring compulsory detailed reports about the nature of these relationships and their progress), the correspondence of amateurs, alike the correspondence of all other presumptive "unfaithful" citizens, was inspected and systematically censored. Receiving a transceiver from friends or relatives in Western countries was a terrible humiliation and a matter of suspicion - an opportunity for blackmail.

But not only amateur radio was subject to thorough supervision. The presidential couple Ceausescu deemed profoundly undesirable : computers, video recorders, TV antennas pointed towards Bulgaria, Serbia and Hungary, TV satellite dishes, books, magazines and newspapers from abroad, everything enabling the free circulation of ideas and information, not to mention the free movement of Romanian citizens.

We don't have yet sufficient and complete information about the Stalinist trial of George Craiu, YO3RF, and the ordeal of his imprisonment. We don't know the truth about the conviction of YO7DZ. I don't think amateurs are aware of the fact that in the 1987 anticommunist uprising in Brasov, two years before the revolution and the régime's collapse, a ham was among the participants. He was charged during the inquiry with "subversive communication with the West," although he was a short wave listener and possessed only a receiver! After 1989 he also faced a defamation lawsuit, because he thought he recognised a member of Parliament on the TV screen as his torturer. We don't know how many persons abandoned hope after their failed attempts to obtain a license.

To understand the past a people must become acquainted with it and finally to admit it. With no hard feelings, no resentments, but fully aware of the truth. This truth must not be silenced and buried under the dust of archives. I think it's important to be uttered, recorded and known, in order to avoid all the tragic mistakes of the history.

This text was published in the Romanian magazine Radiocommunications and Amateur Radio and on the independent website www.radioamator.ro

73's from YO4PX

Totul e mai frumos povestit
radio România

RADIO ROMANIA INTERNATIONAL

Asia Radio Sales

Two way radios http://www.asiaradiosales.com

Yaesu

FT-2000

£1,259.00

Yaesu

FT-2800M

£75.00

Yaesu

FT-7800R

£109.00

Yaesu

FT-8800R

£165.00

http://www.asiaradiosales.com

HF/50MHz TRANSCEIVER

IC-7200

* The above photo includes optional MB-116 handles.

HAM 'N SCHOOL
BY YO9FNR

Aurel Chiruta, YO9FNR with some of the enthusiastic youngsters from the school.

A School Club Station in Romania byAurel Chiruta, YO9FNR

YO9KVV is the call sign of the school amateur radio club in Valea Calugareasca, Prahova county, Romania.

The club is an outgrowth of the school's technical workshop for electronics and radio constructions and it was established in 1980.

At first the workshop suffered from scarce material resources and lacked a proper room. However, the children's enthusiasm convinced the school's administration to provide a dedicated space, which we set up with our own resources and the children's parents' assistance.

The first receivers we built were synchrodynes for 40 and 80 meters. In 1985 we founded a shortwave listener radio club, YO9-585/PH, which took part in many national and international contests with good results.

In 1986 the activity leader and other club members passed the examination for the amateur radio certificate, however, due to the situation in the country it was not possible to obtain the transmitter licenses as well. Nevertheless, we continued to build radio equipment and participate in contests as shortwave listeners.

We also built our first A-412 transceiver, a well-known homemade rig in Romania, designed by Nicoara Paulian, YO3NP, and built in those years in hundreds of copies by YO amateurs.

After the events of December 1989 and thanks to our newfound freedom, we finally obtained our transmitter licenses and this greatly accelerated our activity. The club room was rearranged, the anntenas rebuilt and the famous A-412 put to work, this time including its transmission side, leading to more participation in contests and energizing all our activities.

New children joined the club and studied for the exams. Stefania, YO9GJY, got her license at the age of 9 years, becoming in 1994 the youngest amateur in the country and our club station's first national champion.

In 2005, after intense theory and practical preparation, 13 of our young members obtained their licenses, forming the nucleus of the club's hardcore operators.

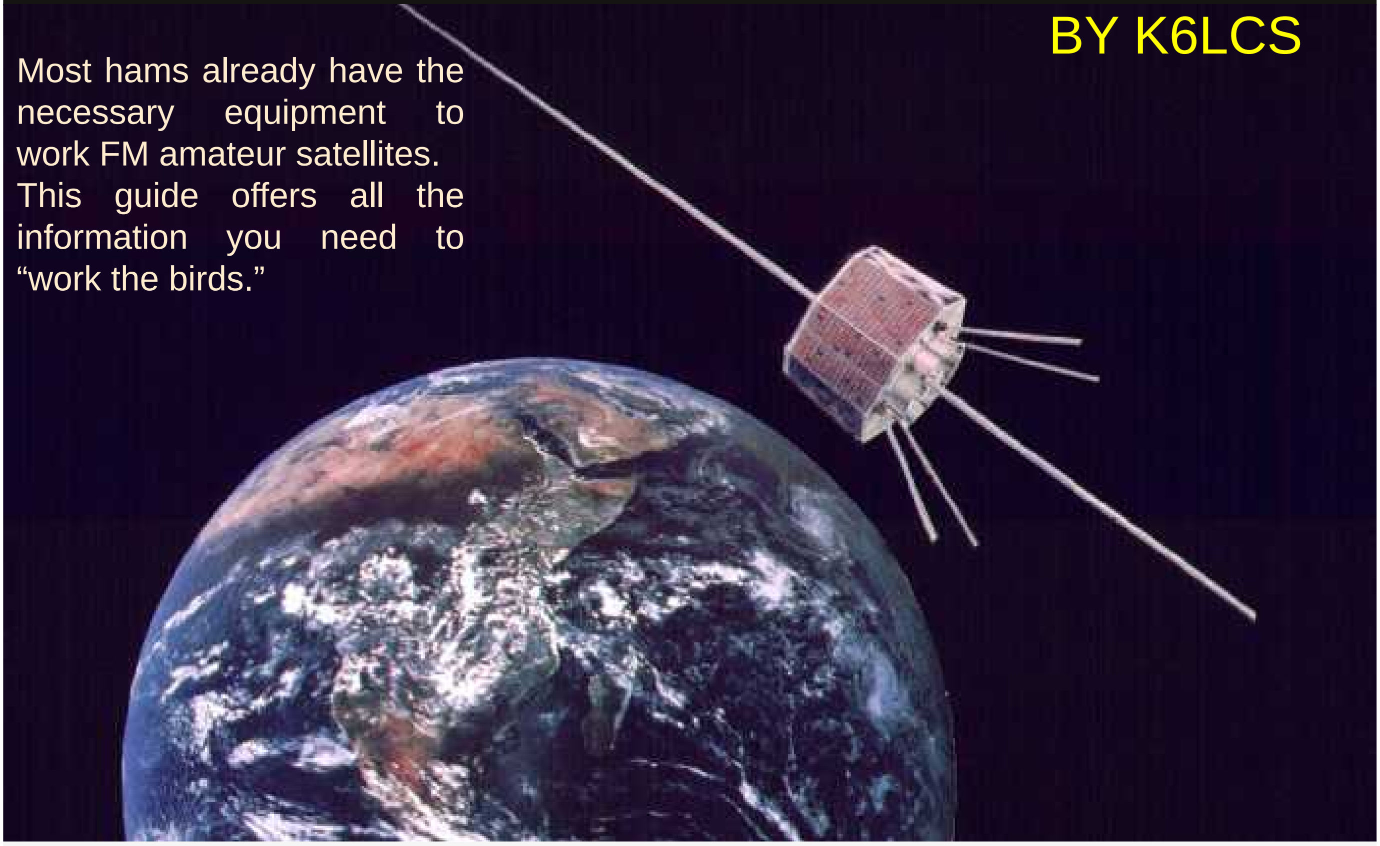
It must be said that we received invaluable help from Romanian amateurs and from amateurs abroad. George, WB2AQC, an ex-YO, was permanently on our side. At the present time, we have 24 licensed hams and 11 shortwave listeners.

Since Valea Calugareasca is situated in a well-known wine growing region, we organized an annual marathon contest, The Road of the Wine, using the special callsign YP9VIN.

Between September 1-30 2007, 997 different stations contacted YP9VIN. For the fifth running of the contest, 160 amateurs from all over Romania gathered in our QTH, now able to to meet personally after so many on-air contacts. We try to attract as many new youngsters as possible to amateur radio, the wonderful pastime that engenders better communication between people.Listen on the bands for YO9KVV and YP9VIN, QTH Valea Calugareasca, Prahova county, Romania! **Aurel Chiruta, YO9FNR**

WORK SATELLITES WITH YOUR HT!

BY K6LCS



Most hams already have the necessary equipment to work FM amateur satellites. This guide offers all the information you need to “work the birds.”

If you can program split frequencies in your HT (transmit on 2 meter and receive on 440), you’re set!

In satellite AO-51's main V/U mode, the UPLINK frequency (to AO-51) for voice is 145.920MHz. The DOWNLINK freq (from AO-51) is 435.300MHz.

First, you need to know WHEN and WHERE the satellite will be passing over your location. There are several commercial computer programs that will tell you. In the home office, I use Nova for Windows[1]. Outside, though, I use PocketSat[1] on my Verizon Treo 650p/755p PDA or Palm TX. On my MacBook Pro, MacDoppler[1] is amazing. These programs are easily updated with satellite tracking data. But completely free of charge info is online at…

http://www.heavens-above.com -or- http://www.amsat.org

Plug in your longitude and latitude coordinates on these sites, and you can access amateur satellite pass information. The one "absolute" for success is to open up your squelch. “Working the sats” starts off as a process of finding weak signals, so don't expect the satellite to be anywhere as strong enough to break squelch like your local repeater. Sure, it’s a little noisy, but that's part of the process. Noise can also be an aid in locating the satellite because when the frequency starts to exhibit QUIETING, that's a sign that you are capturing the satellite! Improve your HT’s stock antenna. For BNC connectors, Pryme's AL-800[2] will make the difference. For SMA, the Diamond SRH-320a or Smiley 270A are good performers. Using an Arrow dual-band[3] Yagi is better. If you prefer to homebrew your antenna, see the Notes[4] for construction article citations. Set up your radio so you can to tune for the doppler effect. Start listening above the center frequency[5] - you will hear the satellite sooner and clearer. When the downlink gets scratchy or fuzzy, tune down 1KHz at a time, and reception should be clearer. With low power, only transmit when you can clearly hear the satellite. Follow the signal down in frequency as the pass continues.

Don't hold your whip antenna upright. Held in a vertical position, your transmitted signal is hitting land-based receivers. You need to tilt your HT's antenna so that it is perpendicular to the airborne satellite. The satellite isn't on the ground (which is what HT and vertical antennas were designed for). TILT IT about the same amount as the satellite's ELEVATION. You'll quickly get the hang of it! Ideally, we should all be working the satellites in full duplex mode, where we can simultaneously listen to the downlink as we are transmitting. Although this method is preferred, it is not mandatory: Carefully monitor the downlink, and wait for a break in the conversations to announce yourself. Many operators find using headphones helps - especially if working full duplex. Knowing your gridsquare - and having a gridsquare map - is a quick way of identifying locations of what you will be hearing. The ARRL and Icom have gridsquare maps: Icom's is free and available at better amateur radio stores[6].

The "three P's" for working amateur satellites: preparation, planning, and patience. Not every pass is workable with an HT — so don't go after the 10 degree passes. Pick your passes, working ones you know will give you the best chance.

When you hear others, try to find a break in the action, and announce your callsign phonetically, grid square, and op mode:

"KILO-SIX-LIMA-CHARLIE-SIERRA, D-M - ONE-THREE, handheld."

Some hams record their sessions for later review. Even if you don't make contacts, it helps to familiarize yourself to the callsigns, voices and personalities of the other operators.

Check the AMSAT Web site for the AO-51 Control Team News – to make sure AO-51 is in a VHF/UHF mode to work with your HT.

Ask questions! Find an elmer or look up the AMSAT[7] area coordinator for your area. Posting specific questions on the AMSAT bulletin board will also help you find answers.

Clint Bradford, K6LCS - AMSAT Area Coordinator

Email: clint@clintbradford.com 909-241-7666 Updated 07/02/08

AMSAT.ORG

Nova for Windows
www.nlsa.com

MacDoppler
dogparksoftware.com

arrowantennas.com

Meteor 1-7 r 3.8.2 (ID: 4850)
Lat:46.02N Lon:4.91W Alt:335.1km

02.09.02 18:29:45

PocketSat+ for Palm
www.bigfattail.com

heavens-above.com

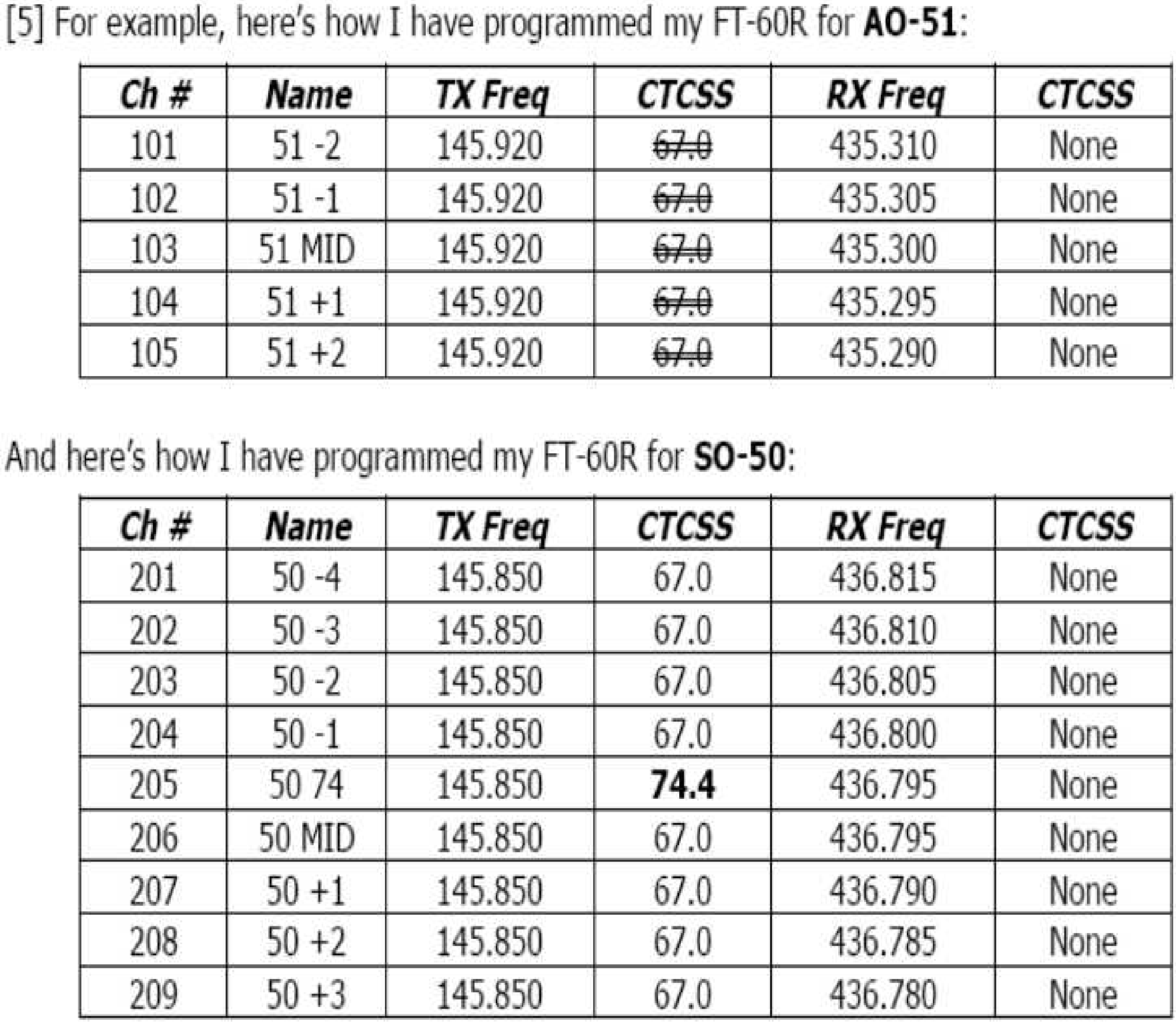
Notes

[1] Nova for Windows is available from Northern Lights Software Associates' Web site at www.nlsa.com. PocketSat is available from Big Fat Tail's site at www.bigfattail.com. And MacDoppler is available at www.dogparksoftware.com .

[2] The Pryme AL-800 telescopes to 34" and collapses to 10". It is packaged with a 9" rat tail - which you can use for everyday use. Use caution with this massive, heavy antenna: It has the potential of placing a lot of stress on your radio's BNC connector. Pryme claims gain figures of 3.2 dB on VHF and 5.5 dB on UHF.

[3] Arrow's Model 146/437-10WBP is a dual-band cross-Yagi design, with a duplexer built into the handle. It has three elements on 2M and 7 on 440. See it in action in the December, 2007 issue of CQ Magazine. Arrow's Web site: http://www.arrowantennas.com.

[4] Alex Diaz' Yagi-Uda plans are at http://xe1mex.gq.nu/antenas/yagi.html. The AMSAT "Cheap and Easy" series of satellite antenna articles is at…
http://www.amsat.org/amsat-new/information/faqs/crow/



[5] For example, here's how I have programmed my FT-60R for **AO-51**:

Ch #	Name	TX Freq	CTCSS	RX Freq	CTCSS
101	51 -2	145.920	~~67.0~~	435.310	None
102	51 -1	145.920	~~67.0~~	435.305	None
103	51 MID	145.920	~~67.0~~	435.300	None
104	51 +1	145.920	~~67.0~~	435.295	None
105	51 +2	145.920	~~67.0~~	435.290	None

And here's how I have programmed my FT-60R for **SO-50**:

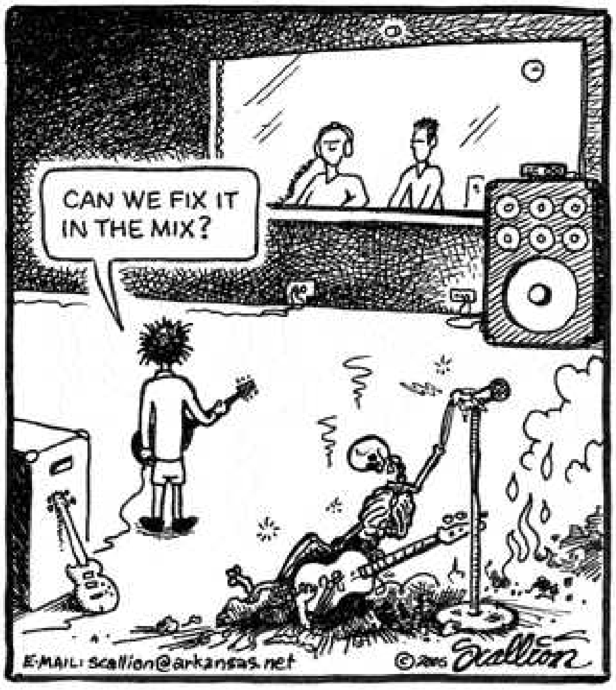
Ch #	Name	TX Freq	CTCSS	RX Freq	CTCSS
201	50 -4	145.850	67.0	436.815	None
202	50 -3	145.850	67.0	436.810	None
203	50 -2	145.850	67.0	436.805	None
204	50 -1	145.850	67.0	436.800	None
205	50 74	145.850	**74.4**	436.795	None
206	50 MID	145.850	67.0	436.795	None
207	50 +1	145.850	67.0	436.790	None
208	50 +2	145.850	67.0	436.785	None
209	50 +3	145.850	67.0	436.780	None

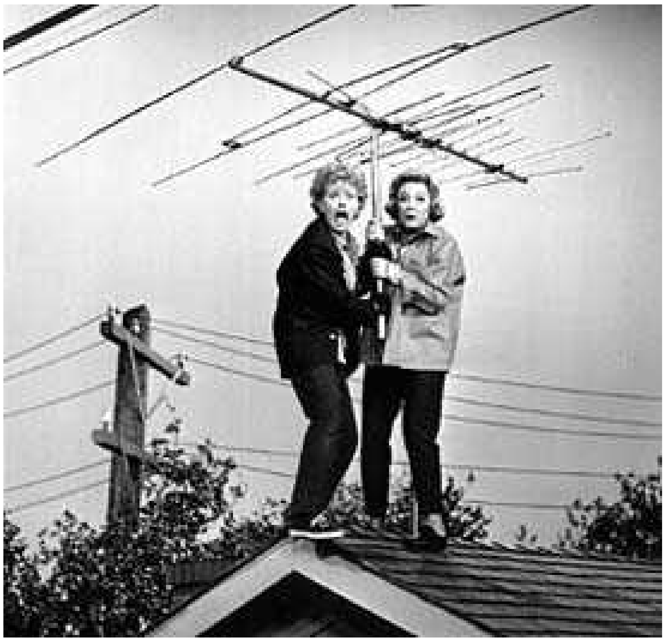
[6] Icom's map is available as a .pdf file on Icom's Web site. Search their Knowledge Base for Article 5BUE54225A at http://icomamerica.com - or at http://www.clintbradford.com

[7] AMSAT deserves your support! Membership isn't that expensive, and members are entitled to discounts on AMSAT publications and satellite tracking software!

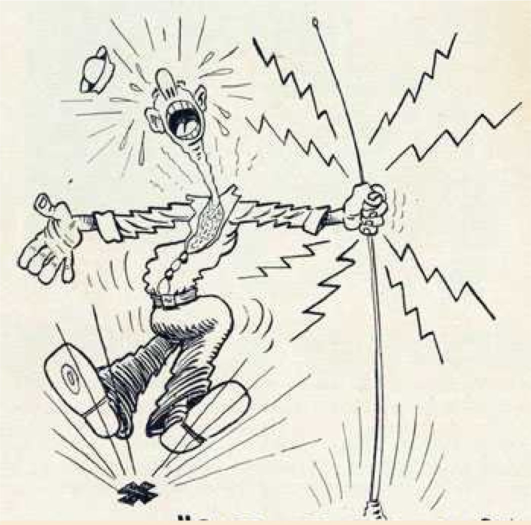
COMIC'S HAM

Have some fun

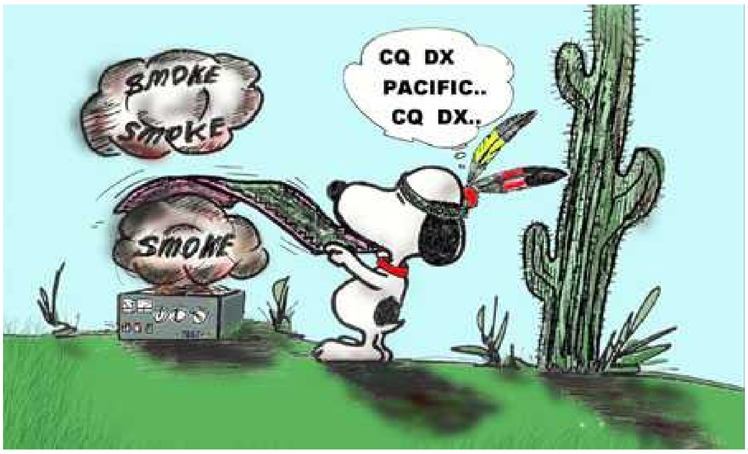




Too much wind ? Put your YL
and mother-in-law on the roof !



That's why I prefer QRP !



HAM-MAG

January 2010

[N.12]

F5SLD's Free HAM Magazine - 100% HAM RADIO

A Small Yagi for 50 MHz

History :
The V for victory

QRP is... !

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a "V" for victory The V army *32*

POST-IT !

The breaking News

Happy New Year 2010 !

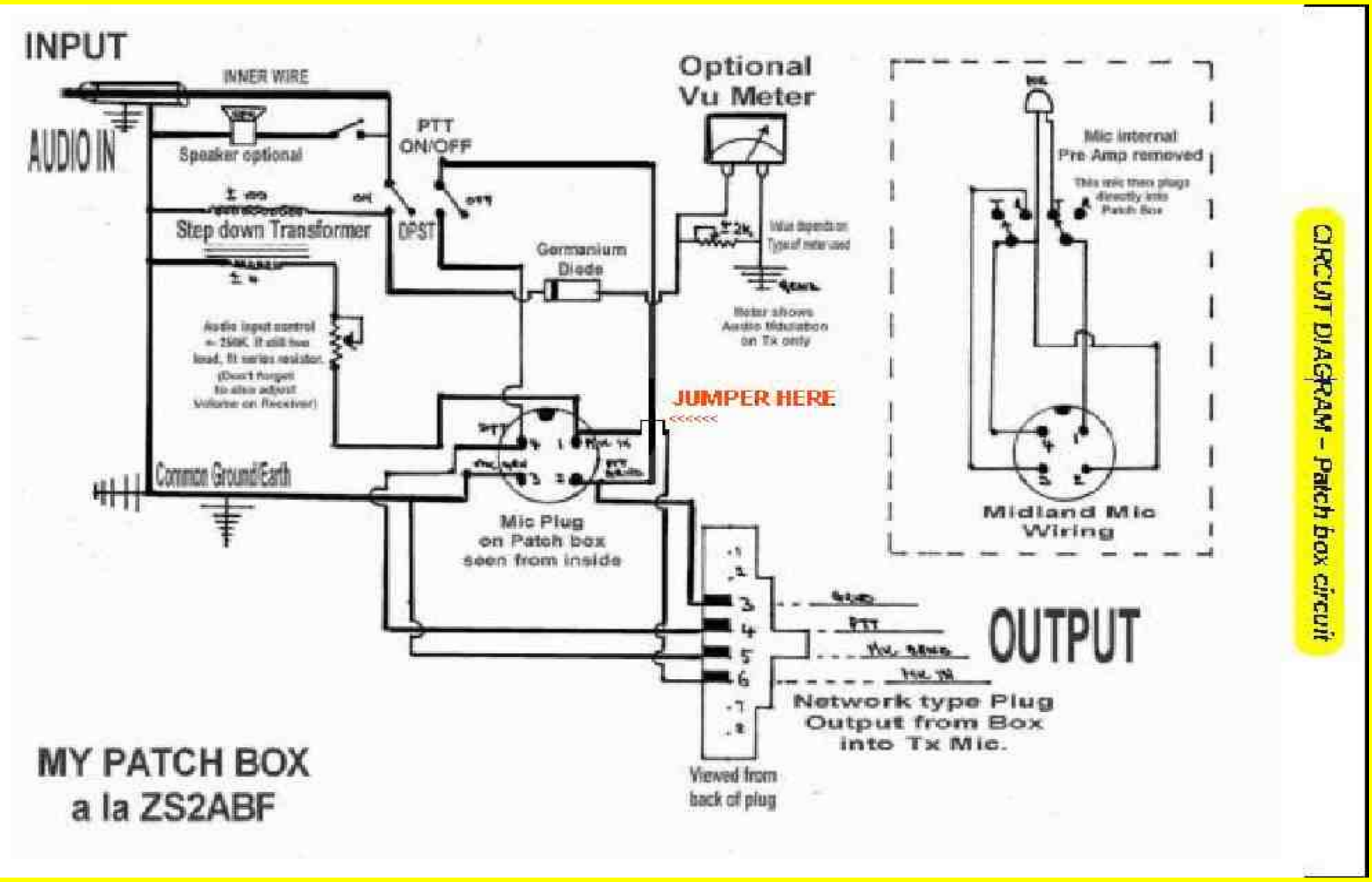
Ham-MAg is now on... Facebook.

Type "ham-mag" in the facebook homepage and become a fan.
If we are a lot of fans, may be some retailers would be interested in publishing one (or several) ad in this magazine. Of course, to exist this magazine needs your participation... All infos are welcome.
Happy new year 2010.

Vincent Faucheux - F5SLD
Chief Editor

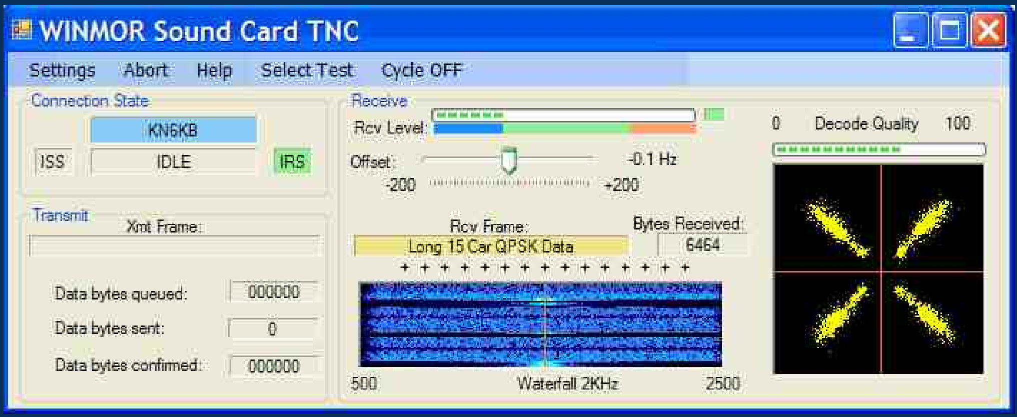
****

Hello,
I have just found a mistake in my circuit Diagram as published in Ham-Mag No10 of Nov09.
There should have been a Jumper but it is shown as a short circuit.
Sorry about that, see the circuit corrected.
Best 73's - Peter ZS2ABF * The Locust


INPUT
INNER WIRE
AUDIO IN
Speaker optional
PTT ON/OFF
Step down Transformer
DPST
Germanium Diode
Common Ground/Earth
Mic Plug on Patch box seen from inside
Optional Vu Meter
2K
Value depends on Type of meter used
Meter shows Audio Modulation on Tx only
JUMPER HERE
<<<<<<
Mic internal Pre Amp removed
This mic then plugs directly into Patch Box
Midland Mic Wiring
1
2
3
4
5
6
7
8
PTT
OUTPUT
Network type Plug Output from Box into Tx Mic.
Viewed from back of plug
MY PATCH BOX a la ZS2ABF
CIRCUIT DIAGRAM – Patch box circuit

WINMOR--A New HF Transmission Protocol for Winlink 2000

By Leon Singh - 9Z4BM
http://9z4bm.tripod.com/
http://9z4bm-hamradio.tripod.com/



KN6KB
ISS
IDLE
IRS
Xmt Frame:
Data bytes queued: 000000
Data bytes sent: 0
Data bytes confirmed: 000000
Offset: -0.1 Hz
Rcv Frame: Long 15 Car QPSK Data
Bytes Received: 6464

WINMOR, by Rick Muething KN6KB of the Winlink Development Team, is a new HF radio transmission protocol for the Winlink 2000 system. WINMOR was introduced at the 2008 ARRL / TAPR Digital Communications Conference in Chicago on September 26-28, 2008. Unlike PACTOR, only a simple computer soundcard-to-radio interface is required, and it will run as a "virtual TNC" with Paclink and RMS software. Also unlike PACTOR, it will be fully documented and without restrictions or license issues preventing anyone from using the protocol in other software. It will have at least three modes, ranging from 200 to 2000 Hertz in bandwidth, and will provide raw speeds ranging from 125 to at least 1875 bits per second.

WINMOR will NOT replace Pactor but be used in addition to Pactor. The RMS HF will be able to operate BOTH WINMOR and Pactor (1-3) but not simultaneous connections. While WINMOR may not equal P2 and P3 in total performance it will provide lower cost, higher performance and more robustness than P1. The primary applications will be for those lower usage Emcomm applications which have trouble justifying the high cost and low utilization of the P2 and P3 modem.

Current Status
The second round of beta testing began on September 17th, 2009. All individuals interested in contributing to the test should:

1.Signup for the WINMOR Yahoo group, where the Beta test will be conducted, at http://groups.yahoo.com/group/WINMOR.
2.Review the documents in the FILES area of the WINMOR Yahoo Group. Particularly the "WINMOR Testing and Evaluation Plan." You may not want to participate at the outset of the testing period. Please educate yourself before making requests. Thanks.
3.Direct your communications regarding testing and your participation to the WINMOR group.
Have a look here : http://www.winlink.org/WINMOR

73's 9Z4BM, Leon

6 Meters–The Early Years
A personal history by Dave, W3BJG

Having just read the “6 Metre Handbook” by Don Field, G3XTT, I realized that although this book was intended as a handbook, I felt that there was a lot of 6 meter background information not addressed.

I became licensed as WN3BJG in February of 1955. This was before the days of FM and Repeaters and EME, Moonbounce, Scatter and all of the other technologies available today was essentially buzzwords but there were a few pioneers.. SSB was just coming into being as far as the amateur world. For the average Ham, It was either A1 or A3 emissions. A new word was spreading among the amateur world--semiconductors! To most, this was a Selenium rectifier, others were experimenting with Germanium diodes and a few lucky ones gained access to the Raytheon CK722 transistor.

I immediately got on the air on the utilizing the 2 Meter band, mainly because I had previously acquired a surplus SCR-522 rig which was completely converted and ready to go on the air.

Having no HF transmitting capability, I spent my entire Novice year operating on the 2M band and listening to W1AW and private code practice stations, getting ready to go for the General class license, which I successfully obtained within the one year grace period.

Not many commercial manufactures were making 50 MHz equipment in the mid 50's. Practically all commercial/amateur equipment manufactured at the time only went to 30 MHz. As I recall, I got on the air after much prodding by my friends on 144 MHz. A recently formed VHF Club had as a club project, a 50 MHz transmitter so I built it and then I needed a receiver. Having played with some super-regenerative receivers before getting my license, I took that route and finally had a 50 MHz station.

A quick check thru the advertisers in the ARRL Handbooks yielded the following manufacturers of 50 MHz gear: ***See Appendix 1***.

According to my Log Book, my first 6M contact was February 12, 1956 but this activity ceased in April of the same year when I enlisted in the Navy. In June of 1956, I bought my first piece of commercial 2M equipment, a Gonset Communicator.

As I recall, my first piece of 6M equipment, was a Tapetone XC-50 Double Cascode High Performance 6M converter which Ibought early in1957 and used it in conjunction with a BC-312Nsurplus receiver. I think my 6M antenna at the time was most likely a modified TV antenna.

During the next several years, while I was attending Navy TechnicalSchools I did manage to operate from Memphis, W4ODR and later when stationed in Hawaii, KH6AHQ. Most of the operation at these clubs was on the HF bands, handling phone patch traffic.

During the latter part of 1956 and early 1957, I had the opportunity tobecome acquainted with Paul Wilson, W4HHK. I often visited withhim while he was at work as a TV engineer at a local television in Memphis, TN and also was fortunate in visiting him at his home QTHin Collierville, TN. One of the things I remember most about hisstation were the twin towers he had erected in preparation for the upcoming IGY program, See QST, Nov. 1957. On these towers Paul had erected 6M arrays and the towers were oriented so in one direction, they pointed directly towards W1AW and in the opposite direction, they were directed towards Australia.

Unfortunately, I never heard of what success he may have had with the antenna although I did have the opportunity to speak again with Paul as I traveled thru Memphis in 1973.

While in Hawaii, I started the construction of what I intended to be a Portable 6M Transceiver. I later found out that in the process oftesting the transmitter portion, I apparently did it during a rather goodband opening to the East coast (from Hawaii) and I was heard somewhere in the New England states. I had no receiver capabilityat the time and wasn't aware of what had transpired. The receiver inthis portable transceiver was a modified version of the Super-Regen originally used when I first got on 6M.

As soon as I saw an advertisement for the Heath Seneca 6 & 2 MTransmitter kit, I immediately ordered it. In the latter part of 1958, I secured permission to set up my own amateur radio station on the Navy base at Barber's Point, TH and assembled my new transmitterin my own Ham Shack. In a letter to Sam Harris, W1FZJ, I stated"as of the 15 of March (1959), I got on 50 MHz and during the first three hours of operation with the new rig, I worked several of the local hams in Hawaii, and then hit an opening into VK4 and VK9 land. The present set-up is: Heath Seneca, Tapetone XC-50 into a Hallicrafters SX-100, and a 5 ele beam abt. 60 feet in the air."

Openings:

I was fortunate in that I was on the air during the IGY which coincided with what was anticipated to be a good year as far as sunspot activity. As it turned out, cycle 19 proved to be the highest recorded sun spot activity and that record still stands, 50 years later.

Another factor which made these openings interesting was the fact that Hawaii had gained statehood on August 21, 1959 and was the last state required for WAS on 50 Mhz. Many of the West Coast stations that contacted me were attempting to obtain the coveted WAS on 50 MHz and really expressed an interest in getting my QSL card. The operating during a great band opening was a lot of fun, but the work began after the band closed. I made it a policy to QSL 100% and although the cost was not that great—still only 3 cents a card, the time required to research the address information and then fill out the card took much more time then the contact itself.

Having notified the FCC Engineer in Charge in Honolulu, I was able to operate under my own call as W3BJG/KH6 which was an asset during band openings. That call stood out among the other KH6 stations during band openings.

I know I contributed to several of the W6 and W7 call area hams among the first to obtain their WAS 50 on 50 Mc certificate. During one exceptional band opening, there was a two (2) hour period where I worked fifty (50) different stations just as fast as I could log them. ***See Appendix 3***.

Many lapses in DX contacts were due to either the lack of good band conditions or the fact that I often deployed to the Midway Islands as part of a flight crew. Several other operators were authorized to utilize my station and were fortunate in making a few DX contacts themselves.

73 ! G. David Germeyer, W3BJG

Appendix 1

1953	Harvey-Wells	TBS Bandmaster Senior
1953	Gonset	Super “6” Amateur Converter
1953	Concord	Sonar MB-26 Various, including 6&2M
1953	Monitoradio	2 & 6M Receiver
1953	RME	MC-53 3 Band 2, 6,10-11M Conv.
1955	Gonset	Communicator 2M and 6M models
1956	GE Ham News	Simple-Sixer Converter
1956	National Co.	HRO-60 Receiver, 50-54 MHz optional
1956	WRL	6 M converter
1956	Ameco	Low Pass Filter

Appendix 2

The 50th State VHF Club published a Propagation Forecast for 6 Meters, October and November 1959.

2 October 1959

Path	***October***	***November***
Okinawa	1300-1400	1200-1800
Eniwetok	1400-1800	1000-1900
East Coast U.S.	---	---
Philippines	---	1300-1600
West Coast U.S.	0900-1400	0900-1400
Japan	---	---
Alaska	---	1100-1300
Midwest U.S.	---	---

These openings are of a general nature. Openings other than those noted may occur, depending upon atmospheric phenomena, pre-sunspot activity or scatter.
Times listed indicate periods when MUF reaches or exceeds 50 mcs.

Appendix 3

The following is a brief summation of 6M band openings I was fortunate in operating during 1959-1960. Only states or countries are listed and times are local, Hawaiian time. *W = worked. H = heard*

3/15/59	2305	VK9	W
3/15/59	2312	VK4	W
3/15/59	2328	VK4	W
3/15/59	2342	VK4	W
3/16/59	1444	PY5	H
3/16/59	2207	VK4	W
3/16/59	2218	VK4	W
3/16/39	2230	VK4	W
3/21/59	2150	VK4	W
3/21/59	2213	VK4	W
3/21/59	2242	VK4	W
3/21/59	2300	VK4	W
3/21/59	2331	VK4	W
3/21/59	2332	VK4	W
3/24/59	2236	VK4	W
3/29/59	2211	VK4	W
3/29/59	2226	VK4	W
3/29/59	2243	VK4	W
3/29/59	2316	ZL1	W
3/29/59	2335	ZL2	W
3/29/59	2350	ZL2	W
3/30/59	0015	VK4	W
3/30/59	0024	VK9	W
3/30/59	2244	VK4	W
3/30/59	2312	VK4	W
3/30/59	2323	VK9	W
3/30/59	2333	VK4	W
3/31/59	2225	VK4	W
3/31/59	2241	VK4	W
4/1/59	2309	VK4	H
4/1/59	2309	VK4	W
4/1/59	2323	VK4	W
4/1/59	2333	VK4	W
4/1/59	2345	VK4	W
4/5/59	1427	LU4	W
4/5/59	1435	LU3	W
4/5/59	1440	LU8	W
4/5/59	1445	CX1	W

4/5/59	1450	LU2	W
4/5/59	1453	LU2	W
4/5/59	1457	LU5	H
4/5/59	1520	LU3	W
4/5/59	1536	LU9	W
4/5/59	1546	CX1	W
4/5/59	1559	LU9	W
4/5/59	1606	LU3	W
4/5/59	1614	CE3	H
4/5/59	2314	VK9	W
4/6/59	2159	VK4	W
4/6/59	2213	VK4	W
4/7/59	2130	VK4	W
4/7/59	2307	VK4	W
4/7/59	2358	VK9	W
4/8/59	0001	VK9	W
4/16/59	1415	LU3	W
4/16/59	1457	LU2	W
4/16/59	1511	LU2	W
4/16/59	1530	LU3	W
4/16/59	1547	LU5	W
4/16/59	1613	LU9	W
4/30/59	2358	VK9	W
5/5/59	2321	VK4	W
5/10/59	2212	VK4	W
5/10/59	2231	VK4	W
5/10/59	2242	VK4	W
5/10/59	2332	VK4	W
5/30/59	2334	VK9	W
7/3/59	2259	VK9	W
7/29/59	2339	VK9	W
7/30/59	0001	VK9	W
8/8/59	2303	VK4	W
8/10/59	2251	VK4	W
8/10/59	2335	VK9	W
8/11/59	0001	VK4	W
8/11/59	0020	VK9	W
8/11/59	2323	VK9	W
8/17/59	2319	VK4	W
8/17/59	2340	VK4	W
8/21/59	Statehood !		
9/2/59	2245	VK4	W
9/17/59	2304	VK9	W
11/1/59	0917-1244	*50 Stateside QSO's including W6, W7, Calif and Arizona*.	
12/15/59	0953	K6JYJ	H
12/15/59	1000	K6HWD	W
1/10/60	0922	K6HGT	W*
1/10/60	0925	W6FZA	W*
1/10/60	0929	K6HCP	W*
1/10/60	0929	WA6GEF	W*
1/10/60	0934	K6MMT	W*
1/10/60	0939	WA6GXN	W*
1/10/60	0943	K6LLK	W*
1/10/60	0947	K6EOS	W*
1/10/60	0951	K6RMX	W*
1/10/60	0955	W6KIN	W*
1/10/60	0959	W6LQM	W*
1/10/60	1002	W6JTC	W*
1/10/60	1005	WA6COS/6	W*
1/10/60	1010	K6QMK	W*
1/10/60	1017	K6LCL	W*
1/10/60	1018	K6GOH	W*
1/10/60	1024	WA6JOT	W*

Stations marked with W were worked utilizing a one (1) tube Super-Regen Receiver. Just told everyone to move up the band to get out of the local QRM !*

1/10/60	1053	WA6GRO	W
1/10/60	1058	K6TPO	W
1/10/60	1108	W7ZOW	H
1/10/60	1115	W7JAX	W
1/13/60	1009	W7DYD	W
1/13/60	1015	W7RGS	W
1/13/60	1025	K7ERW	W
1/13/60	1052	WA6DQZ	W
1/14/60	0937	K6UMM	W
1/14/60	0945	W6AJF	W
1/14/60	0951	K6UWD	W
1/14/60	0956	W6WIT	W
1/14/60	1002	K6OCF	W
1/14/60	1007	WA6DRH	W
1/14/60	1011	K6QAX	W
1/14/60	1016	K6JJU	W
1/14/60	1023	WA6BMR/6	W
1/14/60	1027	K6OFJ	W
1/14/60	1032	K6QQA	W
1/14/60	1034	WA6BZA	W
1/14/60	1039	WA6IFR	W
1/14/60	1043	WA6FLX/6	W
1/14/60	1047	WA6DTO	W
1/14/60	1320	VE7's	H
1/15/60	0915	K6QMA	H
1/15/60	0919	K6JKA	W
1/15/60	0927	K6UMM	W
1/15/60	0930	K6PXT	H
1/15/60	0935	W6WIT	W
1/15/60	1020	WA6IFR	W
1/15/60	1026	W7ACD	H
1/15/60	1050	W7RDY	W
1/15/60	1103	K6WYQ	W
1/15/60	1300	JA1,JA9, JA0	H
2/13/60	*Operation from KH6 land terminated. Station torn down*.		

Special event station

ON50RN

Sponsored by: **RNARS, UBA, BMARS and**
The International Navy Ham Group

From January 1st 2010 until December 31st 2010, there will be the activation of several special event stations to commemorate the 50th anniversary of the Royal Naval Amateur Radio Society. The RNARS was the first society to unite the International Naval and Maritime Ham Radio community. Since the foundation of our mother society "the RNARS", several national naval and maritime amateur radio groups have been founded, all with ties of friendship to each other. All these maritime and naval amateur radio groups exchange information and contact each other trough the international Navy Ham Group.
Email: navyham@gmail.com

The Belgian activation will be with the cooperation of operators from the UBA section ONZ and the BMARS and guest operators.

A small lesson in history:

As QSL design we have made the choice of the image of the HMS Buttercup, the HMS Buttercup was the flagship of Royal Naval Belgian section during WWII. She flew both the Belgian and Royal Naval Ensign at D-Day at the coast of Normandy. The Royal Naval Belgian section was founded september 1940. The officers and sailors of this section manned two war corvettes, the Godetia and the Buttercup and three patrol vessels, the Elektra, the Phrontis and the Kernot. The Royal Naval Belgian section was the foundation of the modern Belgian Royal Navy.

La corvette HMS «Buttercup» (K193), armée par les Belges.

Special event stations:

GB50RNARS	**http://www.rnars.org.uk/**		
ON50RN	**http://www.qrz.com/db/on50rn or www.bmars.be**		
PA50RNARS	operated by PA0VLA	Jo	RN 944
PA50RNARS	operated by PA5AD	Arjan	RN 4670
PB50RNARS	operated by PA0XAW	Age	RN 967
PC50RNARS	operated by PA3CTK	Harm	RN 3521
PE50RNARS	operated by PA3EBA	Jan	RN 2999
PF50RNARS	operated by PF9A	Martin	RN 2887
PG50RNARS	operated by PA3DNH	Henk	RN 2867
PH50RNARS	operated by PA0HRM	Hans	RN 2885.

Qsl info for ON50RN is via Buro or manager ON7PP.

ON50RN is valid for RNARS and BMARS awards: RNARS 020, BMARS 100.
All these stations may be counted as jokers for the BMARS awards.
www.bmars.be

Qsl and poster design: Patrick ON7PP

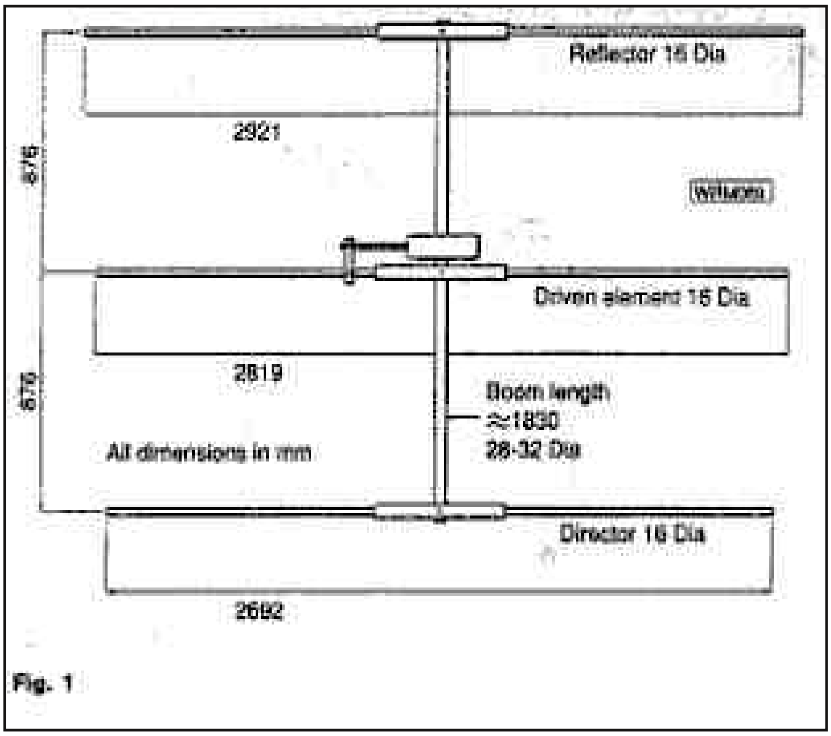
A SMALL YAGI FOR 50 MHZ

BY KEN WILLIS G8VR

I wrote an article under the above heading in the Spring of 1989 and it appeared in Practical Wireless in July of that year. In a later edition some further notes were published, following some computer simulation studies on the antenna by Dr. Ian White, G3SEK and my good friend Bob Reif, W1XP. Since then, several of these antennas have been duplicated around the world, and from time to time I still receive enquiries from potential builders. Consequently the editor of Six News suggested that it would be a good idea to prepare an updated article, now that some six or seven years of operational experience using this little antenna have shown its capabilities. We are indebted to the editor of Practical Wireless who readily gave permission for some of the original text and art work to be reproduced here.

There is little doubt that the most important part of any amateur radio station is the antenna system, yet few of us are fortunate enough to live in areas where tall masts supporting the sort of arrays we would like to use would be tolerated. The release of 50MHz facilities posed antenna problems for many amateurs, particularly those who previously operated only on the VHF/UHF bands where element and boom lengths are less conspicuous, being more in keeping with typical domestic TV aerial systems. In the early days of Cycle 22 , I commenced a study of the literature in an attempt to find a really compact antenna, with forward gain, for six metres. From the outset there was no escaping the fact that a compromise solution would be necessary.

Figure 1.



My thinking was that as the solar cycle progressed the real DX would be arriving via F2 propagation, so I favoured a small yagi which should offer low-angle radiation, reasonable directivity and suitable front-to back characteristics, useful for reducing interference. Some early arithmetic soon indicated the problems. A 50MHz 5-element yagi with elements spaced 0.25 wavelength would require a boom length of almost 20 feet, definitely a non-starter at my QTH. Reducing the spacing to 0.2 wavelength still resulted in a boom length of almost 15 feet, which coupled with element lengths of the order of nine feet was again larger than I was prepared to contemplate and risk disturbing the excellent rapport with neighbours which I enjoy.

Eventually I found a reference to a small 3-element yagi designed for 50MHz portable operation by Ed Tilton, W1HDQ who was for some years the ARRL VHF editor and one of the operators involved in the first transatlantic six metre contacts with G6DH way back in 1946. Using his antenna as a starting point, I eventually came up with the small yagi described here; its dimensions and the matching system which I finally settled on are shown in

In my original article all the dimensions were given in inches, but in the Practical Wireless figures, reproduced here, they were converted to the metric system. Obviously some discretion is needed here, since, for example, a driven element shown as 2819 millimeters in length suggests the need for an accuracy of nearly one part in three thousand which is certainly not the case! Using a pocket calculator to divide the millimetric lengths given in the figures by 25.4 will give a close enough length for those like me who prefer to work in inches. I aimed at an antenna resonant close to 50.110MHz , for obvious reasons, and the dimensions given reflect this but before you take a hacksaw to metal, read the update paragraph later.

Figure 2

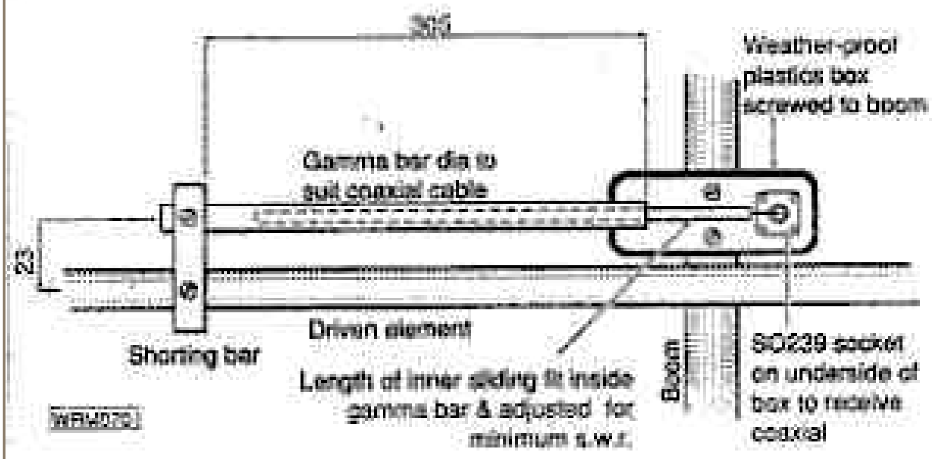


Fig. 2

Construction.

The great attraction of this little antenna is that its boom length is less than six feet. The design is an example of what used to be known as a "plumber's delight". This descriptive name arose from the fact that in this type of antenna, the boom and all elements are bolted together with no form of insulation between them, so standard plumbing parts such as T-junctions can readily be used to simplify the construction. In my design, instead of using plumbing parts I chose clamps of the type sold for securing car exhaust systems. These are readily available in various sizes from automobile accessory stores. The U-bolt part of these should be a snug fit around the tube selected for the boom. A short length of mild steel tubing (brass might weather better) is welded (brazed) to the clip supplied with the U-bolt as shown in Figure 4. ***[Please note that the spacing between the gamma match and the driven element should be 58.5mm NOT 23mm.]***

The internal diameter of these tubes should be just large enough to admit the yagi elements in a nice sliding fit. A single self-tapping screw through the outer tube and biting into the element beneath enables the element to be centred on the boom and prevents sideways movement. Figure 3 shows the dimensions and construction of the shorting bar which is not at all critical, but preferably should be fairly "hefty" to reduce inductance. As for the three yagi elements, provided they are not of the extremely narrow type, their diameter is also not critical. In my prototype I used half-inch outside diameter tubing.

Matching the antenna

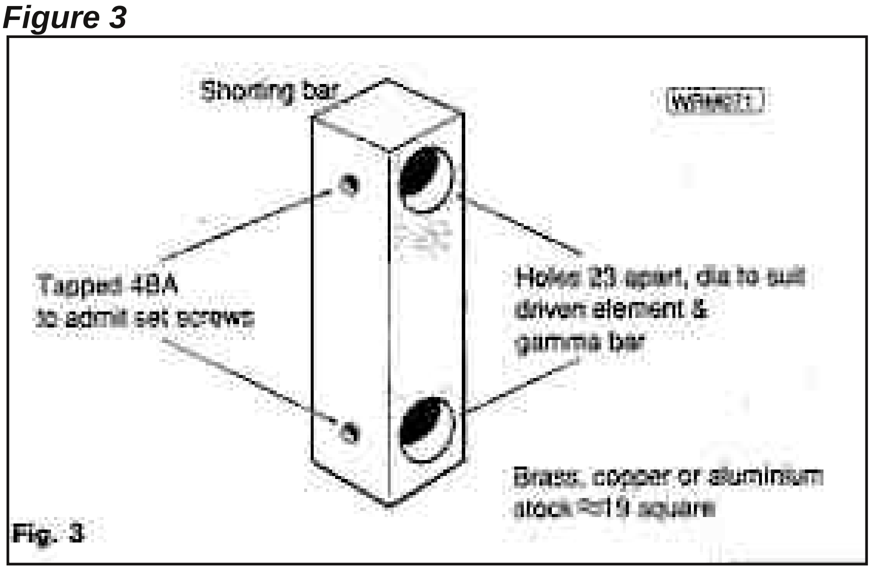
For efficient operation a good match between antenna and feeder is paramount. With commercially built antennas there is usually little one can do but to accept what is offered and hope for a good SWR, but with a home-brew antenna things are more flexible. Over the years I have always favoured the gamma match, for not only is it capable of providing an excellent match with the minimum of problems, it is also particularly suited to the "plumber's delight" design because it does not require the driven element to be cut in halves for a central connection to a feedline.

For those not conversant with the system, a gamma match consists of a short bar (the gamma bar) running parallel to and off-set from one side of the driven element which is an unbroken length of conductor. The end of the gamma bar furthest from the boom is connected to the driven element by a shorting bar (Figure 2). The outer (braid) of the co-axial feed line from the transceiver is then connected to the centre of the driven element boom), while the inner conductor, via a suitable capacitor, goes to the open end of the gamma bar. The length and diameter of the gamma bar and its spacing from the driven element are not at all critical, but for any given arrangement there will be an optimum value of capacitor to achieve a match. A problem has been finding a good quality capacitor of just the right value which can be mounted near the centre of the driven element where it risks being exposed to worst of the weather.

In this yagi the problem is overcome by making the capacitor a co-axial one, using a length of heavy duty coaxial cable with its outer copper braid stripped off, inserted into the tube which forms the gamma bar. (Figure 2).

Obviously the tubing and coax dimensions should be chosen to result in a good sliding fit, with little or no gap between them. By adjusting the length slid into the tubing, the capacity can be adjusted over a wide range. The dimensions shown in the figures are probably a good starting point for anyone wanting to duplicate this antenna.

Figure 3



They resulted in an almost unity SWR with my antenna. Some trial and error will usually be necessary to achieve a good match. I am fortunate in that my mast (which is camouflaged to look like a square drainpipe) can be cranked down to ground level very rapidly, so I was able to make several adjustments to the tubular capacitor to achieve the lowest SWR.Reference again to Figure 2 will show how I used a small plastic box mounted on the boom to provide a weatherproof anchorage for the various bits and pieces. A piece of sheet brass was cut to fit inside the bottom of the box , forming a mounting plate for a SO 239 socket bringing the feed line up from the transceiver. Self tapping screws through the brass sheet secure the box to the boom , at the same time providing an electrical connection between the braid of the feed line and the centre of the driven element (which electrically is also the boom). The centre pin of the SO239 then forms a convenient anchor point for the free end of the gamma capacitor cable. This should all be clear from the figures. Make sure that in practice the SO239 socket and its associated plug are well and truly taped up to give protection from the weather.

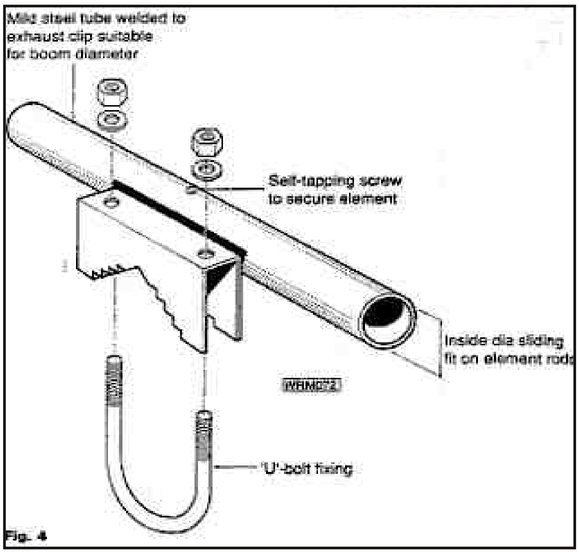


FIGURE 4

Results

Considering the small amount of aluminium in the air, this little antenna has produced outstanding results at my station. By the time Cycle 22 was in decline, I had qualified for DXCC with more than 110 countries worked on 50MHz and 3 G-firsts (V47, ZWØ and 4J). I was also surprised to be the first in the UK to hear K6QXY "off the moon" in the February 1993 50MHz EME tests, though I suspect this was aided by my QTH which favours ground reflections

Update

Following publication of the original article, Ian White, G3SEK, and Bob Reif, W1XP, both used my design to illustrate the use of the powerful computer program MININEC for modelling antennas. This showed the predicted performance was good at 50.2MHz, but it would be even better at 51.2MHz, witha forward gain of 5.7dB and the back/front ratio of some 14dB. The implication was that the element lengths I had chosen were too short by about 2%. (1MHz in 50MHz), so a 'quick fix' might be to increase element lengths by this amount and re-adjust the gamma match.

Another feature of MINNINEC is its ability to opimize an antenna design, and it suggested the following changes:-

Reflector - add 85 mm to length (about 3.3 inches)

Driven element - no change in length

Director - subtract 25 mm from length (about 1 inch)

Of more significance were the recommended element spacings for the optimized version, which were quite different, i.e. reflector/driven element 555mm (22 ins), driven element/director 1125mm (44.3 ins).

MININEC predicted these changes would increase forward gain from 5.7 to 6.0dB (hardly significant) but considerably improve radiation pattern to a front/back ratio of 31dB as opposed to the original 14dB.

If I was to make this antenna again, armed with the computer data, it would be sensible to adjust the element lengths to bring resonance closer to 50.110, though the effect on forward gain would be minimal.

I would consider changing the position of the elements on the boom, however. The existing front/back ratio appears adequate for my purposes, giving enough signal off the back to alert me that things might be happening in directions other than the one I am pointing at the time. Also, from the point of view of the centre of gravity of the antenna, I like having the driven element close to the mast-head which is where feed line arrives. Remember that computer figures are one thing, achieving maximum theoretical performance in practice is another.

If you decide to build one, whichever dimensions you choose, the result will be a compact, rugged antenna performing well. We would all like a bigger antenna, but when F2 is about, 50MHz behaves more like HF. Would you turn up your nose at a well-matched 3-element yagi on 14 or 28MHz?

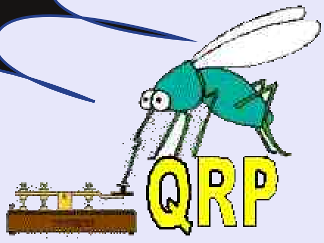
From a reception standpoint, it must be admitted that the lower forward gain of this small antenna compared much larger arrays used by some of the "big guns" on 50 MHz was noticeable during some major openings when stations they were working in areas such as W7 and JA were a few dB down at my QTH, but I don't think I missed a lot and I had more than my share of the good things on offer. I see no reason for changing to a bigger antenna for Cycle 23.

Best 73's ! G8VR

QRP is!

(Confessions of a QRO op gone QRP)

by Ed, W0YK



Wow … what a blast! Operating QRP from 6Y during the CQWW CW Contest may be the highlight of my 40-year Ham experience so far. Imagine breaking 10 records on a weekend where the A-index was 95 and the K was 7. K2KW, N6BT, N6XG, KE7X and W0YK operated 6 single-op QRP entries (K2KW did two!) to surpass all 6 North American QRP SO single-band records as well as 4 of the 6 world records.

One month ago, I'd never operated QRP and had no desireto torture myself in that manner. Then, a few weeks before CQWW CW I was on the phone with Tom, N6BT, about some Force 12 antennas he was designing for my rather windy ridge top location in the Santa Cruz Mountains.

He asked if I would like to join "Team Vertical" for the upcoming CQWW with their QRP caper. The 160 single-op position was open and 80 might open up depending on how Bill's, K6KM, health shapes up in the next few days. Bill had just returned from South America and was fighting something picked up from that trip. I was instantly skeptical about a QRP operation, then quickly became a believer because neither Tom nor team leader K2KW would go to this effort without there being a big opportunity … or, just a heck of a lot of fun. Either way, I knew I'd enjoy myself. Little did I know how much I'd enjoy myself. My first (dumb) move was to exhibit a bit too much excitement to my partner Mary … and, communicate in a typical male fashion, totally ignoring all my "Mars-Venus" training. It went something like this.

(Ed) Team Vertical's invited me to Jamaica for CQWW.

(Mary) Neat. When is it?

(Ed) The weekend following Thanksgiving. It's really cool. we're going to operate QRP with the big Team Vertical antenna farm. We could break some North American and World records.

(Mary) Neat. When do you leave?

(Ed) Huh? Oh, the Monday before Thanksgiving.

(Mary) The Monday BEFORE Thanksgiving?

(Ed) Uh … yeah, why?

(Mary) Well, I guess you won't be spending Thanksgiving with me and at this late date I'll have little chance to make other plans. How could you do this on Thanksgiving?

(Ed) That's when CQWW CW is … every year. Thanksgiving is just a time marker pegging the annual occurrence of this important event. When I think of CQWW CW, I locate it in time relative to "Thanksgiving", but I don't actually think of the social aspects of "Thanksgiving" itself … turkey, family, etc. I really hadn't thought of that angle until you brought it up just now.

(Mary) How could you do this?

(Ed) Do what?

(Mary) How could you leave me on Thanksgiving and not evendiscuss it.

(Ed) We ARE discussing it. You can go if you want. If you don't want me to go, then I'll tell Kenny and Tom that I can't make it.

(Mary) Of course you're going to go. I want you to go. It's just that its Thanksgiving and I wasn't included in the decision.

(Ed) Decision? I'm asking you … we're "discussing" it.

(Mary) Well, it sure doesn't feel like it to me. But, don't misunderstand. I really do want you to go. I'm just hurt that I wasn't more a part of the decision.

(Ed) [Totally confused] Let me get this again. You're hurt that I'm leaving you over Thanksgiving. Yet, you want me to go and are fully supportive?

(Mary) Sure. This isn't about your going or not. It's about how you aren't including me in the decision.

(Ed) I don't get it, but I really do want to go and you do seem to be saying that you want me to go but I have a feeling that you're not happy about something. (Etc., etc. for the next 2 weeks.)

(Later, down in Jamaica, I'm lamenting to Walt, N6XG, about this pre-flight domestic discussion and he tells me it was a snap for him. How so, I ask. Simple, he says, "I told my wife about the trip, but that since it would be over Thanksgiving, of course I wouldn't be going." She immediately says, "Oh no, you must go. It gives me the opportunity to go out to New York and visit our daughter. What a great coincidence." This sounded somewhat like my spousal conversation except his partner seemed happy. Then it hit me. Mars vs. Venus. We're focused on the facts; they're focused on the interaction. And, Walt, the old pro, deftly remembered his Mars-Venus education.)

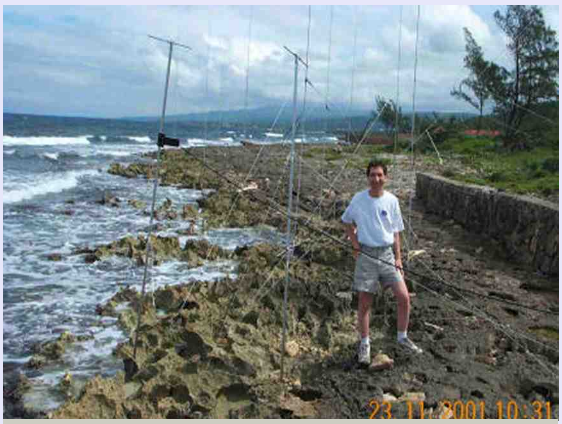
OK, back to CQWW. I am off to a shaky start, but with only two weeks left, I need to prepare. Plane tickets … no problem Mon … 5 minutes on the Internet and I'm all booked. Radio? Ah, I have a TS-50 I took to Damascus for the YK0A operation back in '94 so I proudly announce to Kenny that I'm all set in the rig department. "Nope", he says, "not allowed." "What?" I exclaim. "Unacceptable receiver characteristics … won't handle the pileups."

"OK, what IS acceptable?" I ask. So, he explains the various radios that are fine, such as one of my TS950s, but the rest of the crew is taking Elecraft K2s. Not ever having experience with a K2, he is taking his JRC, also partly because he wants to work 6 meters. Tom is also taking his TS850 … "just in case the K2s don't work out." So far as we know, no K2s have been tested in big multi-station expedition with potentially huge pileups. But, theoretically, the K2 should perform great.

Well, this was music to my ears. I love building stuff and it had been over 30 years since I built my last Heathkit or anything homebrew of any significance. So, this offered a great excuse to build a K2 which I had been coveting ever since Eric, WA6HHQ, of Elecraft had given a presentation at an NCCC meeting last year. At the time, my only concern was … "What in the world would I DO with a QRP rig once I enjoyed the construction phase?" Elecraft is located just down the hill from me in Aptos, so I arranged to pick up my kit, along with all the various accessory kits, the next day.

With everything else going on in my life, including $$ participation for the club, I didn't get started on the K2 until a week before departure … not a lot of margin for issues. Well, other than an un-programmed IOC chip (which controls all the relays and other internal K2 devices), the kit went together flawlessly. The basic kit took me 36 hours and I got the audio filter and computer interface modules completed as well. That was all I really needed. Just as I had ordered the K2, we had learned that K6KM wouldn't be able to make the trip, so I was moved into the 80-meter position. Thus, I didn't need the 160-meter module and since we weren't operating SSB, I didn't need that one either. However, I just barely finished the rig before leaving and had no opportunity to operate it … not a way to "prepare" for the trip.

I met up with the other 4 guys at LAX where our non-stop Air Jamaica flight originated. While I knew most of the guys, this was the first time I had met Fred, KE7X. Fred is a really cool EE professor at Bozeman University in Montana, and has been going on expeditions with Kenny for 10 years. Our flight was a red-eye arriving at 6:30am Tuesday morning before the contest. Two drivers filled their cars with our gear and antennas (with barely enough room for ourselves) and we headed for the villa, 35 miles away on the North coast of Jamaica, just West of Discovery Bay. The groundskeeper and 3 household staff greeted us with a pristine tropical abode. Within minutes of arriving, we pushed the furniture out of the way, set up two large operating tables and soon the living room was a nerd's paradise. Power cables were run from the breaker box and duct-taped to the floor.



Kenny, K2KW, by the 2-element Sigma-6 array. Behind him are the 4 element 10M European array, 4 element 15M European array, 2 element 80M array, and 160M inverted L.

Kenny unpacked his JRC and Acom 1000 Amplifier on 6 meters in 5 minutes! The 2-element Sigma-6 vertical array was erected on the coral with waves lapping at their bases and then the 150' of LMR-400 I brought down was connected.

Kenny had 6 meters on the air roughly 30 minutes after arrival and worked the US and European openings as they appeared the rest of the day, interspersed with serious antenna construction.

Fred KE7X, Tom N6BT and Walt N6XG building vertical elements on the lawn

Ultimately, we built 23 vertical elements, configured into 4 basic antenna types:

1. SVDA (Switchable Vertical Dipole Array)--fullsize center-fed vertical dipoles in a 2-element set of driver and parasitic reflector. The reflector is switchable to a director, but we didn't use that feature.

All directivity was northward to our main running directions: Northwest (US) to Northeast (Europe). On 10m & 15m, 2 of these pairs were phased to create a 4-element array on Europe.

2. Sigma Vertical--shortened center-fed vertical dipoles with "T-bar" capacity end-loading. Also, configured in 2-element parasitic driver/reflector pairs for 6 and 40.

3. ¼ wave vertical—bottom loaded with a coil, two elevated tuned radials.

4. Inverted-L—compliments of a local 50' tree, two elevated tuned radials.

Here’s the band by band antenna complement:
6m: 2-element Sigma manually “rotated” by moving the reflector to favor US or Europe depending on openings.
10m: 2-element SVDA on US/JA, 4-element on Europe.
15m: same as 10.
20m: 2-element SVDA pointed at 20 degrees.
40m: 2-element Sigma on US and a second array on Europe.
80m: 2-element base-loaded 35’ tall vertical array pointed at 20 degrees.
160m: 50’ tall wire inverted-L

By Tuesday evening all elements were constructed and 10/15/20 were operational. Wednesday, the 40’s and 80’s were erected and tuned.

Never operating from the Caribbean before, I wanted to get as much airtime as possible on the band before the contest, so I operated 80 through the night Wednesday, from about 5pm until 7am the next morning. For the first half of Wednesday night, the band sounded like 20 meters – no noise, and lots of loud Europeans. Then, the band noise rose up and stayed that way for the rest of our stay. Kenny and Tom say it’s unusual to have such band noise at this location based on previous experience – usually the low bands are as quiet as a mouse. Thursday we constructed the 160-meter inverted-L and it played wonderfully Thursday night. The plan was for me to do both 80 and 160 as single -band efforts … that is, until Tom came down with a severe case of the flu. On Friday, he began to get better close to contest time, but was worried that he wouldn’t have the stamina to battle his 40-meter assignment all night. So, we decided that I would do 40, Tom would do 80 as best he could, and Kenny would put in a few hours on 160 after 10 died.

I had to quickly adjust my mind from 80 meters to 40 meters as we reconfigured stations just a few hours before the contest by moving coax lines, coax switches, and building new CT Bin files. On 40 prior to the contest, I could clearly and loudly hear all over Europe, but no one would come back to my calls. I was enlightened that in 6Y, you can hear Europe on 40 and 80 a couple hours before being able to work anything there, even with a kilowatt.

Eventually, my QRP signal was heard and I began running stations. I couldn’t believe how well 5 watts was playing. My excitement and anticipation for the contest was quickly squelched when the contest bell went off. I couldn’t find a running spot anywhere in the lower 80KHz of 40 meters! In the first 8 minutes, while everyone else was wildly running, I managed only one W8 in the log. Experimentally, I discovered two things. First, I had to add “CQ” to my CQ message … the 6Y4A call (sans kilowatt) wasn’t enough in the initial bedlam. Second, I had to “Search and CQ” because holding a frequency longer than a few minutes proved futile and pouncing just as much so. While trying to run, I squeezed between two loud stations and was constantly moving my TX VFO 50-100Hz back and forth to optimize my running frequency.

Team Vertical: (L to R) Fred KE7X (6Y9A), Walt N6XG (6Y2A), Kenny K2KW (6Y1A & 6Y0A), Tom N6BT (6Y8A), Ed W0YK (6Y4A).

Eventually, the band settled down and I settled into my techniques that began the run. Then, I had the opposite problem … the pileups are HUGE. Kenny & Tom warned me about them, but you have to hear them to believe it. Fortunately, the K2 RX handled them quite well.

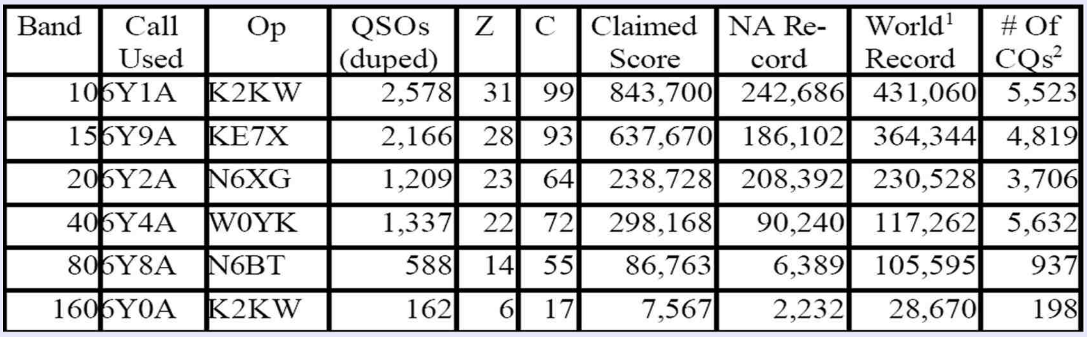
For those of you who heard Eric's RX presentation at the November meeting, everything he said proved out. The RX really handled the signal overload. My problem then became my own personal ability to pull out the calls from the bedlam. The next 14 hours were incredible. What a high to be running Europe, USA, JA and the Pacific around 10z. This was what all the preparation was for and I thoroughly enjoyed it. However, my excitement kept me from sleeping enough during the day, and Saturday night was a bit more difficult. It was also a series of ups and downs. A JA called in at 0700Z, uncharacteristically early and actually prior to his sunset, so I thought I was in for a very hot band that night. Then, quickly, the band died, even the US stations were hard to hear and got watery and fluttery like a polar path during a disturbance. Somewhat later the band peaked again and I started running JA's (along with the US and some Western Europeans). But, suddenly, "poof", no pileup again.

The net result was that my QSO total dropped way below my anticipated rate and overall goal. It was a constant battle to hold a CQ frequency. Right in the middle of my CQ some European and an occasional W would just start CQing on my frequency. I had previously determined that fighting it out was futile, but by now I was feeling more confident, so I pushed back and guess what? I was able to chase stations off my run frequency. Not all the time but more than I would have thought possible. Then, VQ9X starts CQing beneath my CQ's. He obviously couldn't hear me, and I missed a new zone and country. A 4X called me but didn't confirm my report, so I had to scratch him from the log. There were many mults like this that slipped through my fingertips. I feel that my mults (22 zones and 72 countries) were lower than they could have been. Looking at other 40 meter results today, convinced me of this. I also felt I could have gotten more out of the pileups, so more practice in that department is planned this coming year. However, 23 hours into the contest (with solar indexes of A=95, and a K=7), I surpassed the 40- meter QRP world record! All and all, I was learning a whole new kind of operation … QRP with atypically high antenna gain and a great location for running the USA, EU, and JA. As Kenny explained at the meeting last month, 5 watts is "only" 4 Sunits down from full legal power. And if your antennas/ location are optimized, as ours were, for a S9++ signal advantage over the typical expedition Yagi, then ta daa … it is very much possible to "rock 'n roll" with QRP. This tiny 3lb K2, that is mostly air inside anyway, was commanding the world. What a thrill indeed. The net result is that I have a completely new perspective on "QRP". Transmitter power is just one element of the total system, and not nearly as important as other elements, like location and antennas that are matched for that location. This is not about verticals being better than Yagis. It's about verticals exploiting a saltwater location in a way no Yagis could ever do. Even the 23 vertical elements on our oceanfront didn't look that impressive compared to how they performed. Moreover, the analysis supports the operating experience.

Yes, indeed, "QRP is!"

Thanks again to Force 12 for the loan of the antennas, and to Elecraft for technical support.

73 from Ed, W0YK



Band	Call Used	Op	QSOs (duped)	Z	C	Claimed Score	NA Record	World[1] Record	# Of CQs[2]
10	6Y1A	K2KW	2,578	31	99	843,700	242,686	431,060	5,523
15	6Y9A	KE7X	2,166	28	93	637,670	186,102	364,344	4,819
20	6Y2A	N6XG	1,209	23	64	238,728	208,392	230,528	3,706
40	6Y4A	W0YK	1,337	22	72	298,168	90,240	117,262	5,632
80	6Y8A	N6BT	588	14	55	86,763	6,389	105,595	937
160	6Y0A	K2KW	162	6	17	7,567	2,232	28,670	198

[1] *Note that none of the previous World Records came from NA, so if our claimed scores hold (and are not surpassed), we will have brought 4 World Records to the region.*

[2] *Does not include multiple CQ's from the CT "Repeat" function, only the initial CQ button push! Looks like W0YK holds the CQ record!*

Working radio at remote location!

By Ulf Larsson SM0LCB/SM7LCB

It's a fine feeling to get home from work, settle down in that comfortable chair and then check out the bands. I put out a CQ call with the keyer and get a reply from a station in England. Sure it's fine but a little strange since I have no antenna or radio in my shack here in Solna (close to Stockholm) where I live. My antenna and radio are in our summer cottage down on the island of Öland off the south east coast of Sweden. Working a station in England isn't especially unique – but it is when you work it on 10 GHz.

How is this done then? Let me try to explain in this article! I will let others explain how long range QSO's can be made on microwave.

Ulf SM0LCB at home in Solna active as SM7LCB on Öland

I first started to plan remote operation at the beginning of the 1990's but at that time couldn't find suitable cheap technical methods to implement remote control within a reasonable frame.

Towards the end of the century when the Internet became more widespread and with it broad-band, I bought an Icom IC-706 transceiver. The best thing about this station is that it has a removable front control panel which is absolutely necessary for remote operation since the control panel remains at home and the radio is at the remote location. In year 2000 I had the radio remotely controlled between two computers at home in the shack. Then began a few years development to find out how the rest of a functioning remote system would work out. In my case a remote system would cover the following items:

- Remote control of the IC-706 transceiver.

- Remote control of the antenna rotor.

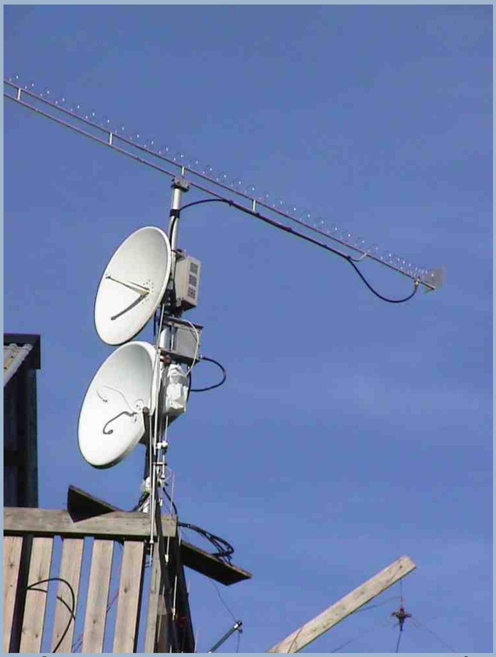
- Remote control of the transverter, firstly for 1.3 GHz and higher bands.

- Sound transfer to and from the transceiver.

- The Transfer of CW – manipulator keyer or hand key signals to and from the transceiver.

All these items excepting the last one were soon operational and worked locally in my shack. I worked many Nordic Activity Contests on 1.3 Hz with this setup. I tested the remote control of the rotor system during my many visits to the island. In the spring of 2004 broadband was introduced on the island and it was time to seriously launch remote control between Solna and Öland. The summer of 2004 became intensive, installing the antennas, building the radio hut by the antennas, hanging up the coax between the antenna hut and the cottage and finally installing the computers broadband and the software. When I left the island in August 2004 everything was fixed and working.

My antenna installation on a nearby barn.



Antenna from top 1.3 GHz, 10 GHz and 24 GHz

I was full of excitement when I got home to Solna and connected to the Internet, powered up the radio on the island and began to work radio through the remote system. Everything worked just as planned and I was a very happy radio amateur when I first heard the noise from the radio on the island in the loudspeakers at home. The real test came during the NAC contest on 1,3 GHz in august and I am still active in this contest. I have also managed to work many fine rain scatters and tropo-openings which are good fun, amongst others I have worked F1ANH (SSB 1558 km) on 1,3 GHz as well as GM4LBV (CW 1169 km) on 10GHz. More about this is on my home-page where log sheets, maps with squares worked and recordings of the many QSO's worked on microwaves can be found. The answer to the question, "Why work radio on microwaves"? can also be found there.

How have I managed all this you might wonder? Well, you buy a radio and hack a bit of code any radio ham worth his salt should be able to do it don't you think? Lets not joke about it, there has been an awful lot of hacking code and that has taken a long time. Most of the methods used to work out the remote commands are described on my home page, but here's a short list of methods.

- Remote control of the IC-706.

My own software developed for Linux/Windows.   << *CLICK HERE FOR LINK* >>

- Remote rotor control.

My own software in a PIC-processor (in the rotor box) driven via ICOM bus from my own LOGGER program and Internet software for Windows/Linux. << *CLICK HERE FOR LINK* >>

- Remote control of the transverter mainly for 1.3GHz and higher bands.

My own software in a PIC processor (in the transverter) driven via ICOM bus via LOGGER program and my own Internet software for Windows/Linux. << *CLICK HERE FOR LINK* >>

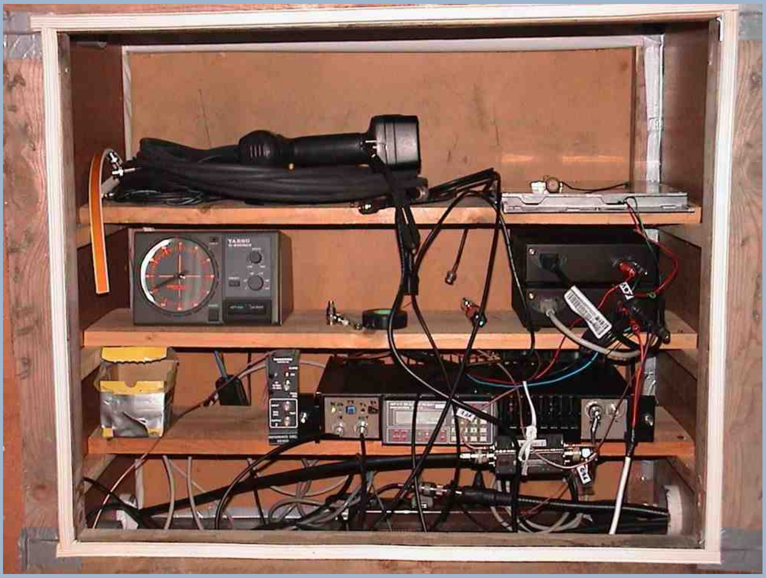
- Sound transfer to and from the transceiver.

I use freeware here, and today I use Team Speak and IHU. << *CLICK HERE FOR LINK* >>

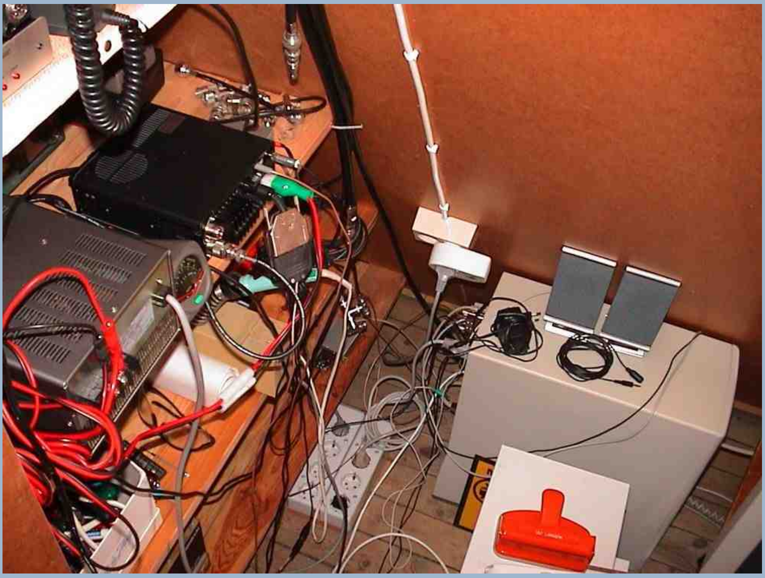
- Keyer and hand-key signal transfer to and from the transceiver.

My own software in a PIC processor at the keyer/hand key as well as my own Windows/Linux to connect them to the transceiver make this possible. << *CLICK HERE FOR LINK* >>

Is remote control of radio's here to stay? The answer is Yes! At present I live in a QTH, Solna, which does not enable me to work microwave, so remote operation is a necessity for me to be able to work theses bands. Of course remote operation can be done in other ways but for me it was important to solve the problem by using my own equipment and software in the true radio amateur spirit. Already there are complete solutions on the markets and it won't be long before they are available from the radio amateur stockists, then it will be easy for the ordinary "mains socket amateur" to use this method.



Antenna hut at the antenna with rotor control, power supply and transverter for1.3GHz.



Installation in the cottage about 60 meter from the antennas with the radio, power supply, computer and Internet connection.

However I am pleased with my own solution which allows me to operate my radio wherever I may be with the front panel on the desk and to call CQ with the manipulator-keyer or hand key to my transceiver on the island of Öland. For instance when I was present at the VHF-meeting in Norway I listened and worked my radio on the island of Öland in Sweden. It felt real good.

73's de ULF. SM0LCB/SM7LCB
Translated from Swedish by Derek/SM5RN.

Homepage http://sm0lcb.shacknet.nu
Mirror site http://sm7lcb.shacknet.nu

4Z, ISRAEL

Alex, 4Z5KJ, will be active as 4Z5J during the CQ 160m CW Contest (January 29-31st, 2010) as a Single-Op entry. QSL via W0MM.

C6, BAHAMAS

Operators Dimtiri/RA3CO and Yuri/RL3FT will be active as C6AWL during the ARRL DX CW Contest (February 20-21st) as a Multi-Single entry. QSL via RX3RC. Dimtiri informs OPDX that he will arrive a few days before the contest and will be active on all bands CW, but prefers 30 and 17 meters.

CM2, CUBA

Frank, CM2IR, informs OPDX that he will once again be active between January 1-3rd, on 40 meters [CW around 7015 kHz and SSB around 7125 kHz], and also 15/12/10 meters SSB between 2200-0300z to bring in the New Year (IOTA NA-015). QSL via EB7DX, with 2 USDs or IRCs.

FO, FRENCH POLYNESIA

Phil, FO8RZ (F5PHW), continues to be active on the bands (especially topband). He has announced this past week that he will be very active on 160m during his sunrise (around 1500z; calling on 1831 kHz +/- QRM and listening on 1824 kHz +/- QRM) until December 30th. If he does not hear anything, he will then move onto 80m, then after to 30m. QSL via F8BPN, direct, by the bureau, LotW.

HH, HAITI

Pierre, HB9AMO, is now active as HH/HB9AMO from Haiti for about one month. Activity will be limited to his spare time. He will be using a TS-50 with 100 watts into wire antennas operating CW ONLY, mainly on 30-17 meters. His QSL Manager is PA7FM: Dennis Robbemond, Loggerhof 11, 3181 NS ROZENBURG, Netherlands. An online log will be available later, but a small Web site is up and running at: http://www.hhhb9amo.pa7fm.nl

HS, THAILAND

Joerg, DL1MJF, is active as HS0ZGQ until January 25th. Activity will be on 40-10 meters CW/SSB using a Kenwood TS-50 and a dipole antenna. Joerg will also once again stay for one week on the Island of Koh Samui (AS-101) and will operate as HS0ZGQ/2. QSL via DL1MJF.

PY0F, FERNANDO DE NORONHA

Fred, PY2XB, will once agin be active as PY2XB/PY0F from Fernando de Noronha (SA-03) between January 23rd and February 3rd, 2010. Activity will be on all HF bands using CW, SSB, RTTY and PSK. His activities will include the CQ 160M CW Contest (January 29-31st), but he will sign as PQ0F. QSL via PT7WA. See photos from his last operation at: http://www.py2yp.com/py2xb

R1, ANTARCTIC

Alex, UA1PAW (ex-RZ1PWA and R1ANF), now operating as R1ANR from Novo Runway in Antarctica, is expected to be there until the end of February 2010. Gianni, I1HYW, who spoke with Alex states, "He (Alex) said propagation is only open around 2000z on 40m. While 10/15/20/30m are closed. QSL Manager is Nick Shapkin, RK1PWA for the Russian and Ukrainian Hams. While for the other countries his QSL Manager is ZS1ANF: Oleg S. Sakharov, P.O. Box 15968, Vlaeberg RSA, Cape Town, Western Cape 8018, SOUTH AFRICA." For more info and photos, see his blog at:
http://alex-v-shmarin.livejournal.com

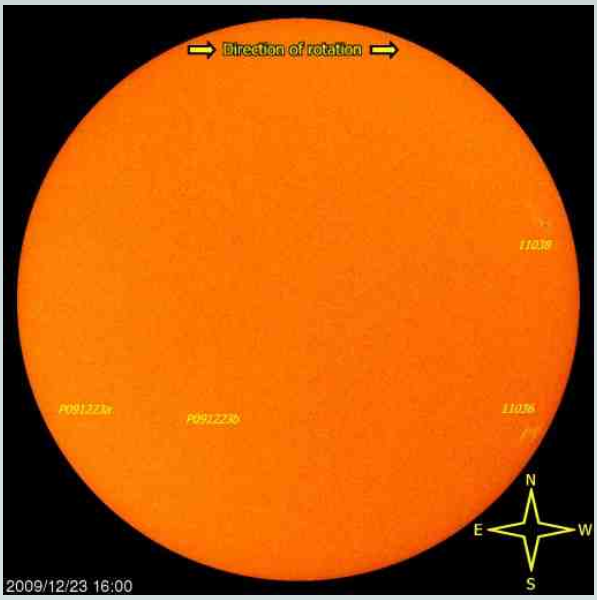
VI2, AUSTRALIA (Special Event)

Look for the special callsign, VI2AJ2010, to be used by Scouts under the guidance of Fishers Ghost Amateur Radio Club members (VK2FFG) at Cataract Scout Park, near Sydney, during the upcoming triennial Australian Scout Jamboree (AJ2010), to take place January 4-14th, 2010. With registrations of 10,000+ Scouts and 3000 Scout Leaders, VI2AJ2010 will be active on HF, VHF and node 6111 to promote their hobby. QSL via VK2FFG (bureau/direct).

VP9,BERMUDA

Kurt, W6PH, will be active as VP9/W6PH for the 2010 ARRL DX CW Contest (February 20-21st) and ARRL DX SSB Contest (March 6-7th) as a Single-Op/All-Band/Low-Power entry. QSL direct to his home callsign W6PH.

SOLAR ACTIVITIES



Summary : Region 11036 decayed rapidly, after it launched a C6.4 solar flare. Region11038 decayed as well. Both regions will rotate of the sun's visible disk by tomorrow. Region 11037 faded away. Region P091222 rotated out of view. New active region numbered P091223a (former BP091220E) rotated onto the visible disk without sunspots. New active region P091223b emerged in the sun's south western quadrant today, ands looks to harbour a small sunspot.

X-ray background dropped to A6 level. Solar Flux at 1800 UTC dropped to 78.4 and is expect to decrease gradually, unless the new active regions develop. The geomagnetic field was at mostly inactive levels, and is expected to remain quiet.

Active regions visible : 11036, 11038, P091222, P091223a, P091223b

Active regions not visible : none

Solar Flux : 78.4 Sunspots visible : 6 Solar Flares : C6.4 Coronal Mass Ejections : none

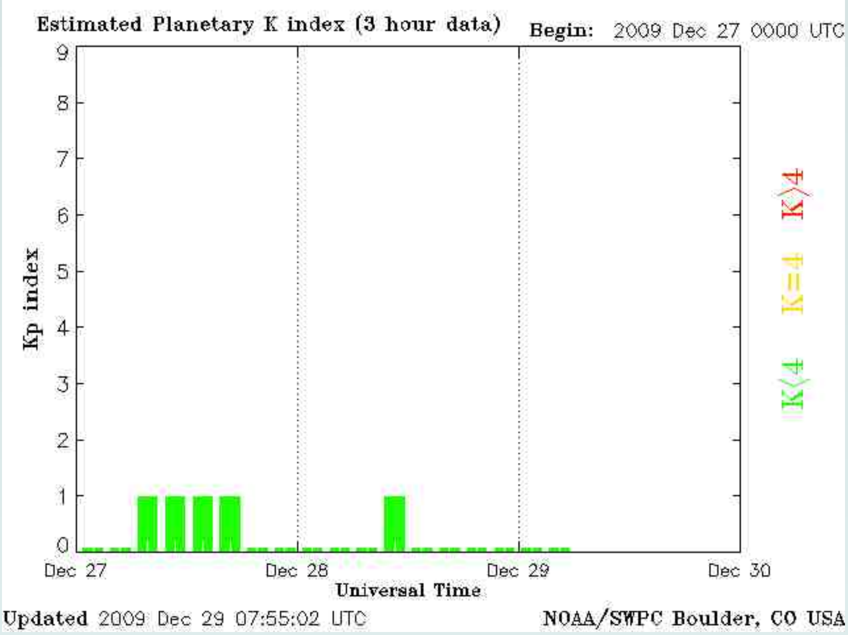
Coronal Holes : none Geomagnetic field : very quiet (K1) Solar Activity : very low to low

Propagation : no changing conditions expected

>2000km is very poor to poor, better than normal due to a very quiet geomagnetic field. Good chance for F2 propagation along the grey line, and a small chance for propagation across polar latitudes as well in the northern hemisphere.

<2000km is poor. Occasional E-skip at equatorial, lower and mid latitudes. Daily very strong E-skip in southern hemisphere peaking late local morning and late local evening. Daily weak to moderate E-skip in northern hemisphere

http://psc.suijs.info/



SM3CVM Presents :

SM3CVM DX-kalender

THE DXCALENDAR

- 3/1 THE GAMBIA; C56SMT
by SM1TDE. Activity will be holiday style. Look for him on CW, 2 kHz from the band edges, as well as some RTTY and SSB. QSL via his home callsign (the Bureau is preferred).

- 6/1 FIJI; 3D2 OC-016
by WB2TJO. He plans to visit three of the islands (Viti Levu, Vanua Levu and Taveuni, all in IOTA OC-016. Using his Icom 706 MkIIG and wire antennas, look for him on 40 and 20 meters. Jim will be on holiday, so operations will be limited and casual. Look for updates, possibly on QRZ.com.

- 6/1 HAWAII; N1CE/KH6 OC-019
from Oahu Island. He states that his activity will be mobile using a Kenwood TS-480 w/100 watts, and it will be SSB only on this trip. QSL only direct to his home callsign.

- 7/1 SRI LANKA; 4S7KKG AS-003
By DC0KK. HF CW/SSB/RTTY/PSK WSJT. QSL hc via DARC buro or direct.

- 28/1 SUDAN; ST26ASC
by members of the Khartoum Sea Scouts Radio Club (ST2KSS). Activity is to celebrate the 26th Arab Scouts Conference (under Peace and Unity). QSL via ST2M.

- 31/1 CANADA; VG7W
The Vancouver Olympics Amateur Radio Group (VOARG) will activate three special calls to celebrate the Olympic Winter Games and Paralympics which will take place in Vancouver/British Columbia in Feb/March 2010. This is the second special call. A website will go online soon, all logs will be uploaded to the LoTW. QSL cards can be sent via bureau or direct to: VOARG, 9362-206A St, Langley/BC, V1M 2W6, Canada.

- 2010 MARSHALL IS.; V73NS OC-028
from the Kwajalein atoll by WD8CRT, who will have to work here for two years starting on Jan 5, 2009. He will work mostly in CW on 160-6m. QSL via bureau or direct to Neil Schwanitz, PO Box 8341, APO, AP 96557, USA. His website is http://www.qsl.net/v73ns/

- July 2011 FRENCH POLYNESIA; FO
by F5PHW. Since he is there for work, his on air activities will be limited, but he will try to operate as much as possible. If he lives in a house, Phil intends to be active on all HF bands from 80-10 meters mainly on CW and RTTY (possibly some PSK31) with very little SSB using only 100 watts. His antennas from the house QTH will be: 80-40m - Inverted V + HF6VX (GP), 30m - HF6VX, 20-10m - HF6VX + Spiderbeam (not sure). However, if he lives in an apartment the antenna may only be the HF6VX. QSL via F8BPN, by the Bureau or direct.

21/12- 9/1 AUSTRALIA; DL4IAL/VK OC-001
active mobile and portable as mainly in SSB on 20m while travelling through Australia. The trip will lead hem to New South Wales, Australian Capital Territory, Victoria, South Australia, Northern Territory and Queensland. QSLs direct or via bureau to DL4IAL.

28/12 - 3/1 MADAGASCAR; 5R8HX AF-013
by G4OHX. Activity will be mainly CW. QSL via his home callsign direct only.

28/12 - 4/1 VANUATU; YJ0NA OC-035
from Port Vila by JK1FNL. 160-10 meter with 100w and wire antennas. QSL hc.

29/12 - 4/1 AUSTRALIA; VK6 OC-211
Robertson Island, Houtman Abrolhos. VK6YS is in the process of organizing an IOTA expedition. QSL via VK4AAR. For the time being the team includes VK6YS VK6NI, but they are looking for another two operators to share the costs. Please contact Wally (vk6ys@iinet.net.au) if interested. The Abrolhos were activated for the first and only time by VK9XZ/6 back in January 1996.

4/1 - 17/1 SOUTH AFRICA; ZS5/G4OHX
Activity will be mainly CW. QSL via his home callsign direct only.

5/1 - 26/1 ARUBA; P40C or P40CG
by W2CG. Activity will be primarily CW/RTTY on 80-6 meters, usually between 1200-1400z and 2000-2400z, other times as schedule permits. QSL is via the LoTW (prefers), or via his home callsign, by the Bureau or direct (U.S. stations, if not LoTW then SASE via CBA).

8/1 - 11/1 EASTER I.; CE0/YV5IAL
This will be a QRP, portable, holiday style operation. Activity will be on PSK31 digital mode on 14070.15 kHz from 2200-0100z, and occasionally on 40/30/15 meters. QSL via his home callsign.

8/1 - 8/2 UNITED ARAB EMIRATES; A6/VE6LB
Activity will be holiday style with low power using wire antennas and mainly on 40-15 meters CW. QSL direct via his home callsign or LoTW.

10/1 - 24/1 SOUTH SHETLAND IS; XR9JA AN-010
from Arturo Prat-Greenwich Island-South Shetland archipelago, WW Loc. GC07FQ) by XQ5CIE, CE6UFF, F6DXE and CE5COX. Activity will be on 160-6 meters using CW, SSB, PSK31 and the AO-51 Satellite. QSL via CE5JA. For more information, go to:
http://www.ce5ja.cl/

12/1 - 8/3 THAILAND; HS0ZJF AS-101
by ON4AFU. All bands, CW only. QSL hc via buro.

21/1 - 28/1 VANUATU; YJ0XX, YJ0DX and YJ0MM OC-035
from Efate Island by a Croatian team of 9A4DU, 9A6DX and 9A8MM. Activity will be on 160-10 meters using CW, SSB and RTTY. QSL Manager will be 9A8MM. More details and updates are available at: http://vanuatu.rkp.hr/

21/1 - 21/3 UGANDA; 5X1NH
by G3RWF. Activity will be on the HF bands. He prefers CW and likes the Digital modes (PSK and RTTY), but may work SSB whenever signals are good enough. QSL via his home callsign.

23/1 - 24/1 UNITED STATES OF AMERICA; K NA-058
from Cumberland Island by members of the Camden County Amateur Radio (KB4CC). They plan to have two stations running on battery power on the following suggested frequencies and modes:
SSB - 14260 kHz CW - 14040 kHz, 7055 kHz and 7030 kHz
QSL via KB4CC: CCARS - USI#GA-002S, PO Box 2203, Kingsland, GA, USA 31548. For more information, visit: http://www.ccars.org/ebruary

February COCOS I.; TI9
TI2HMG is trying to put together another operation to TI9 which will take place in February of 2010. Look for updates and details on:
http://www.qsl.net/ti2hmg/cocos.htm

February AUSTRALIA; VI2BI OC-212
from Broughton Island by VK2IR, VK2NN, VK2GR, VK2RF, VK2HV and VK3JHA for three days in February 2010. Activity will take place on multiple bands (160-6 meters) simulataneously to give everyone the chance to contact them. Suggested frequencies are:

BAND	CW	SSB	RTTY
----	-----	-----	-----
160m	1825	1840	
80m	3525	3793	3630
40m	7020	7085	7035
30m	10105		10145
20m	14025	14195	14090
17m	18075	18160	18105
15m	21025	21295	21090
12m	24895	24950	24925
10m	28025	28490	28090
6m	50105	50130	

They may use 14.260 MHz.(US General Class Licence). For update and an online log search, visit the blog at http://www.vi2bi.blogspot.com/

1/2 - 31/3 CANADA; VG7G
The Vancouver Olympics Amateur Radio Group (VOARG) will activate three special calls to celebrate the Olympic Winter Games and Paralympics which will take place in Vancouver/British Columbia in Feb/March 2010. This is the third special call. A website will go online soon, all logs will be uploaded to the LoTW. QSL cards can be sent via bureau or direct to: VOARG, 9362-206A St, Langley/BC, V1M 2W6, Canada.

4/2 - 10/2 HAWAII; N7I
from Honolulu (Oahu Island HI-008S) by WL7MY and KL7JR. Activity is in celebration of the 16th anniversary of the U.S. Islands Awards program. Main frequency will be 28460 or 14260 kHz. They use a TS-50 and a vertical on mag mount. QSL Manager is KL7JR. For additional info: http://www.usislands.org/

10/2 - 21/10 KENYA; 5Z0H AF-040 and AF-067
from Lamu Island and Wasini Island by 5Z4ES, IK8TEO, IK8UHA and IK8VRH are planning to be in Kenya and activate two IOTA islands. QSL via LoTW, by the Bureau or direct to IK8VRH: P.O. Box 173, I-80016 Marano (NA), Italy. Visit the 5Z4H Web page at:
http://5z4h.sitonline.it/

17/2 - 23/2 BELIZE; V31RR
by AA4NC. Activity will be on the HF bands including 30/17/12m using CW, SSB and RTTY. His activity will also include the ARRL DX CW Contest (February 20-21st) as a Single-Op entry. QSL via his home callsign or LoTW.

18/2 - 22/2 NICARAGUA; YN2GY
by K9GY during the 2010 ARRL DX CW Contest (February 20-21st). Outside of the contest, look for CW activity on 30/17/12 meters. QSL via LoTW or to his home callsign, direct or by the bureau.

20/2 - 27/2 CHRISTMAS I; VK9X/G6AY OC-002
by G3SWH and G3RTE. They will operate CW only on 80-10 metres (no activity on 160 metres). Propagation permitting, they plan to have two stations on the air for as many hours every day as is possible. QSL via G3SWH, direct or bureau (requests for bureau cards can be submitted by using the relevant form on. Please visit http://www.g3swh.org.uk/christmas-island.html for further information.

25/2 - 28/2 UNITED STATES OF AMERICA; K NA-066
from Santa Catalina Island (USI CA016S, WLOTA LH-2912, Los Angeles County, California). Activity will be on the ususal IOTA frequencies, mostly 20 meters SSB, using CW, RTTY and/or PSK31. QSL direct to K6PV (Palos Verdes Amateur Radio Club) or by the Bureau. They will have a special K6PV IOTA card for this activation.

2/3 - 11/3 ST. LUCIA; J68JA NA-108
by W5JON. Activity will be on 160-6 meters (including 60m) on SSB. He will use an ICOM IC-7000, KL-400 Amp (350 watts) into the following antennas: ZS6BKW design multiband dipole, and a 3 element yagi on 6m. Activity will also include the ARRL International DX Phone Contest (March 6-7th) as a Single-Op/All-Band entry. QSL via W5JON.

5/3 - 12/3 SAINT MARTIN; FS/KT8X
This will be a holiday style operation with an emphasis on the 30/17/12 meter bands using CW, SSB and RTTY. However, he does plan to enter the ARRL DX SSB Contest as a Single-Op entry. QSL route will be the "Logbook of The World" (LoTW).

5/3 - 24/3 THE GAMBIA; C56KR
by OZ8KR. Activity will be holiday style with operations on 80-10 meters SSB, using 100 watts into wire antennas close to the Atlantic Ocean. QSL via OZ8KR.

12/3 - 23/3 NEW ZEALAND; ZL4TY and ZL4M OC-203
from Stewart Island by VK4DXA and ZL4PW. They plan to have 2 stations using verticals for 160-30 meters and a Spiderbeam for 20-10 meters. They intend running barefoot unless they can obtain a solid-state amplifier. The following suggested frequencies (+/- 10 kHz, QRM, QRN & propagation permitting) have been announced:

Band	CW	SSB	RTTY
160m	1820	1845	
80m	3525	3785	3580
40m	7025	7165	7038
30m	10115		10145
20m	14025	14260	14085
17m	18080	18145	18105
15m	21025	21295	21085
12m	24895	24945	24920
10m	28025	28475	28085 kHz

QSL Info: They need a minimum of 2 USDs or 1 x IRC (please, 2010 issue) for a direct reply. Any donation sent with your QSL request will be greatly appreciated. Cards with insufficient funds or invalid IRCs will be sent via the bureau. All logs will be uploaded to LoTW following the DXpedition. QSL ZL4TY via VK4DXA; by the VK Bureau or direct to: Ray Crawford, 53 Moore Street, Kingaroy, QLD 4610, Australia. QSL ZL4M via ZL4PW; by the ZL Bureau or direct to: Paul Ormandy, 13 Swift St., Oamaru 9400, New Zealand. For more details and updates, visit their Web page at:
http://www.zl4pw.orconhosting.net.nz/OC203/si_index.htm

28/3 - 31/3 OGASAWARA; JD1BNN
by JF3MYU. He is expected to be there with three other operators who will be staying long (hopefully more details will be forthcoming). He will be focused on the WARC bands. QSL is "OK" via JARL Bureau, but write JD1BNN on your QSL (so it can be sorted easily). Also, you can receive his QSL direct if you send your QSL to his address: Kirk Itaya, 5-1-35, Daikaidori, KOBE, 652-0803 JAPAN. Please enclose SAE plus sufficient return postage. For NA, SA, EU and AF include one new IRC or 2 USDs. For Asia, one IRC or 1 USD.

10/4 - 18/4 VIET NAM; 3W6C AS-185
from Con Co Island by HB9BXE and a large group of operators from Switzerland, Germany and Vietnam will be running four stations 24 hours a day. Further information is expected in due course. For the time being, please visit:
http://www.3w6c.qrv.ch/

19/5 - 23/5 ST. PIERRE & MIQUELON; TO2FH
by a team of Brazilian operators. More details are forthcoming.

IOTA-frequencies

CW: 28040, 24920, 21040, 18098, 14040, 10115, 7030 and 3530.SSB: 28560, 28460, 24950, 21260, 18128, 14260, 7055 and 3755.
The frequencies are NOT exclusive to IOTA!
IOTA net Saturdays at 1300z on 14260 and Sundays at 1300z on 21260!

IOTA NEWS

OC-211. (Update)
Operators Wally/VK6YS, Nigel/VK6NI and Bruce/KD6WW plan to be active as VK6IOA from Houtman Abrolhos in the Wallabi Island Group between December 31st and January 4th, 2010. They will definitely have the three stations on simul- taneously. Operations should be on 40-15 meters. QSL via VK4AAR. Visit their Web site at:
http://www.westozdx.net/IOTAS/OC211/OC211.html

SA-041.
Members of the Araucaria DX Group and the ForDX group are planning to activate the Island of Maiau (DFB MA-01) during June of 2010. This is the same group of operators who activated PW6C from Coroa Vermelha Island and Coroa Da Barra Island. More details are forthcoming.

CQ SIX - 50 MHz DX NEWS BY OZ6OM

MMIX. edited by O. Bjørn "Matt" Madsen (MCMLX)
holder of; OZ6OM, OZ50MHz, 5Q6M, ex. OZ1IZB, G0DJJ & OZ7M
Current email address to enter info is; oz6om @ uksmg.net

ConDX. Solar cycle 24. We now officially have solar cycle 24 sunspot group #11036, located near S29W19 with a beta magnetic signature. We also have solar cycle 24 sunspot group #11037, located near N18E54 with a beta magnetic signature. We now have three solar cycle 24 numbered sunspot groups in existence at the same time, a new record high for solar cycle 24. Also the sunspot number is 43, also a new record high for solar cycle 24. 73, GUD DX, Merry X-mas & Happy New Year (Thomas F. Giella, NZ4O at www.wcflunatall.com/nz4o4.htm via MMMonVHF Newsletter 2009-12-24) 25 Dec. 2009

Willis Isl., VK9W. [Update]. Dave, VK9WBM has been on Willis Island for a while and is experiencing unexpected problems. "I am slowly getting on HF", he says, "but I am not there yet. I cannot erect a mast, the soil s coral rubble and sand and will not hold a guy peg. The soil is a bone dry insulator and I have been unable to get any viable earth. The ongwire has worked 2 stations and is to be removed and replaced with a balanced antenna. This will take a bit of work as I have no ATU except the Icom AH4, an unbalanced only auto ATU. On 6m I am unable to mount the beam anywhere useful. It can only point out to the ocean. I have built a 300ohm slim jim and worked about 40 stations, mainly VK2 but with some VK3, 4, 5 and one ZL2. Listen for me in the afternoons on 6m, between 0400z and 0900z. When he is "reliably on HF", he anticipates it "will be 40m and harmonics only" (425 DX News #973) 25 Dec. 2009 - 1 Jun. 2010

Nicaragua, YN. Eric, K9GY, will once again be active as YN2GY from Octavio's, YN2N, QTH in Grenada, during the 2010 CQ WPX CW Contest (May 29-30th) as a Single-Op/All-Band/Low-Power entry. He will be there between May 27-31st. Outside of the contest, look for CW activity on 30/17/12 meters. Also look for him on 6 meters. QSL via LoTW or to his home callsign, direct or by the bureau. (Ohio/Penn DX Bulletin #939) 25 Dec. 2009 - 31 May 2010

Mexico, XE. (Special Event). Members of the DXXE (Mexican Contest and DX group) will celebrate their 5th anniversary by using the special callsign 4A1DXXE between December 20-31st. Activity will be on 160-6 meters using CW, SSB, RTTY and PSK31. The following operators will be active from different locations: Ismael/XE1AY, Hugo/XE1CQ, Sergio/XE1CT, Alex/XE1EE, Tony/XE1GRR, Pepe/XE1J, Ramon/XE1KK (Co-leader), Masa/XE1MM, Carlos/XE1MW, Joaquin/XE1R (Co-leader & callsign trustee), Miguel/XE1YYD, Benjamin/XE2AU, Bernardo/XE2HWB, Hector/XE2K (Co-leader & schedule and log controls), Marco/XE2S, Jorge/XE2WWW, Zalo/XE3N and Daniel/XE3RR. The QSL Manager is Dick, N7RO. Don't send your QSL cards to the Mexican Bureau since they will not have QSLs to answer. Make sure your Bureau QSL card is clearly marked via N7RO. QSOs with this station are good for the DXXE Award. For more information, visit the DXXE Web page at: http://www.dxxe.org (Ohio/Penn DX Bulletin #939) 25 Dec. 2009 - 31 Dec. 2009

Denmark, OZ. Hello Guys, I (OZ6OM) will be QRV in the Nordic Activity Contest Thursday evening (January 14 th.) between 18 and 22 UT. I intend to be QRV from JO55EJ at an alternate QTH running 100 w. into a 5 or 6 element Yagi. In any case I intend to keep activity round 50.173 MHz (SSB/CW) and 50.230 MHz / 50.236 (JT6m). (The reason I´m operating this way is, my attempt at setting up reasonable antennas at my QTH have so far ended in a law suit (Latest, case appealed to the domestic court after a no from the council review board). - so the antenna at my QTH is very modest at this time. The given permit says maximum hight at 1.8 m. agl.) Hope to see You down the log ... vy 73 de Matt OZ6OM

U.S.A., K. Heading to Big Bend and DL88 for the January VHF contest. Send me an e-mail to get on the maillist and I will keep you updated. We will be rover from several of the other area grids too but DL88 is the goal. email Joey at Padre.net Begin date: 20100115 End date: 20100120 Callsign(s): NA5RC Opr. & QSL route: W5BAK. 73 Joey W5BAK (Maurice F5NQL)

South Shetland Isl., VP8, CE9. XR9JA Greenwich Island WW-Loc: GC07FQ. XQ5CIE, CE6UFF, F6DXE and CE5COX will be active from Greenwich Island, South Shetland Islands 10-25 January 2010 as XR9JA They are will be active on 160-6m CW,SSB,PSK 31. QSL via CE5JA - (MMMonVHF Newsletter 2009-10-23)

Contest, Open / WW.
What to do on a rainy tuesday evening - or a dry one for that matters ?
- Well the 4th. Tuesday in the month brings You "The 50 MHz Open"
- This month thats Tuesday - the 26 th. 18 - 22 UT.
- You could help participants out with some QSO´s
- or participate Your self ...
You may find the rules for "The 50 MHz Open" here
and check out the standings here.
- so are You keen to give "The 50 MHz Open" a try ?
Hope to see You down the log - and Your log ...Vy 73 de Bjørn/"Matt" OZ6OM

Aruba, P4. [Update]. Marty, W2CG will be active as either P40C or P40CG from Aruba on 5-26 January. He plans to operate primarily CW and RTTY on 80-6 metres, usually between 12-14 UTC and 20-24 UTC, other times as schedule permits. QSL via W2CG, direct or bureau (but LoTW preferred). (425 Dx News #971)

Aruba, P4. Marty, W2CG, will once again vacation and operate in Aruba between January 5-26th, 2010. Look for him to use a special callsign, either P40C or P40CG (awaiting approval). Activity will be primarily CW/RTTY on 80-6 meters, usually between 1200-1400z and 2000-2400z, other times as schedule permits. QSL is via the LoTW (prefers), or via his home callsign, by the Bureau or direct (U.S. stations, if not LoTW then SASE via CBA). (Ohio/Penn DX Bulletin #926)

Australia, VK. The Hellenic Amateur Radio Association of Australia will be active as VI2BI from Broughton Island on 5-7 February. The team will include Tommy/VK2IR, Peter/VK2NN, Allan/VK2GR, Raffy/VK2RF, Paul/VK2HV and John/VK3JHA, and they plan to operate CW, SSB and RTTY on 160-6 metres. QSL direct to VK2CL. They have a web page at www.vi2bi.blogspot.com (425 Dx News #971)

Temotu, H40. Operators Siegfried/DK9FN, Bernhard/DL2GAC and Hans-Peter/DG1FK will be active as H40FN (CW), H40MS (SSB) and H40FK (Digi-mode), respectively, from Ngarando/Reef Islands between February 6-19th (2010). Activity will be focused on 160/80m (using their famous LOBSTER 2-element multi-band vertical), but they will operate on 160-6 meters depending on the band conditions. QSL H40FN via HA8FW, H40MS via DL2GAC and H40FK via DG1FK. QSL cards will be sent out automatically via the Bureau. However, for those who want to receive their QSL cards directly, a minimum of 2 USDs for postage is requested. Donations are most welcome. For more details, updates and pictures/details of Siegfried's last visit to Temotu, please visit the following Web page at: http://hari-ham.com/h40fn (Ohio/Penn DX Bulletin #936)

The "V" Army
A V for victory

On 14 January 1941 Victor de Laveleye, a Belgian refugee working for the BBC, shortwaved the following announcement to his countrymen: " I am proposing to you as a rallying emblem the letter V, because V is the first letter of the words 'Victoire' in French, and 'Vrijheid' in Flemish: two things which go together, as Walloons and Flemings are at the moment marching hand in hand, two things which are the consequence one of the other, the Victory which will give us back our freedom, the Victory of our good friends the English.
Their word for Victory also begins with V. As you see, things fit all round....". Within weeks of de Laveleye's broadcast chalked V's began appearing on walls in Belgium, northern France and Holland, where Flemish broadcasts of radio Belgique, a conspirator in the V campaign, had a loyal audience.

Colonel Britton, in charge of the "V-army"

Editors of the Belguim section of the BBC, Radio België / Radio Belgique

De laveleye thought the V symbol would deal a psychological blow to German morale, and he was right. In his first broadcast he said that "the occupier, by seeing this sign, always the same, infinitely repeated, [would] understand that he is surrounded, encircled by an immense crowd of citizens eagerly awaiting his first moment of weakness, watching for his first failure." In May 1941 the BBC, buoyed by early reaction to the "V" campaign, circulated a paper on "broadcasting as a new weapon of war." The paper outlined a plan to "cause riots and destruction in every city in europe." Shortly after that, what would become the "V committee" met for the first time to set up plans "to encourage, develop and coordinate British broadcasts to enemy occupied countries about action against the Germans." The BBC choose Douglas Ritchie, a BBC assistant news editor, to make life miserable for the Germans.

Posing as "Colonel Britton," Ritchie's broadcasts, heard on the English service for Europe, became a regular feature dealing with items of localized interest in the occupied countries. The program had a good following in Holland, where one in ten listeners tuned in the BBC.

The broadcasts were so popular everywhere that there was a danger listeners would be incited to commit acts of sabotage. That caught the attention of British intelligence, which had been carefully nurturing German resistance since the hostilities began. Ritchie was beginning to trespass on their territory and they resented it.

but that's another story. At first the V committee endorsed "gentle" disruptive activities in the occupied reich. Listeners, for example, were encouraged to travel more often to upset the transport system. They were also encouraged to consume more food & harass the organizers of the rationing system, who were already harassed to the gills.

On 27 June 1941 the morse ...- was broadcast, followed by the opening theme of Beethoven's fifth symphony. The following day the V sound tapped out on drums became the station identification & interval signal throughout the BBC's European service. Announcers also explained how common sounds could be made into a V.

School teachers, for instance, could call pupils to order by clapping their hands in a V rhythm.

Likewise blacksmiths could tap V's on their anvils, and trains could toot the V. In mid-july, radio Moscow broadcast a talk in Russian about how people in occupied Europe "not only see the V sign but hear it on the knock on the door, the whistles of railway engines, the pealing of church bells." All Europe had responded to the BBC campaign, and the Germans went on the defensive.

on 7 July 1941, e.g., radio Hilversum, now in nazi hands, reported that records of Beethoven's 5th had been broadcast "in error." On 20 July 1941 Colonel Britton instructed listeners in Paris to stage a "quiet knocking" demonstration. The day before a message from Churchill put the British government's stamp of approval on the V campaign and gave heart to listeners throughout occupied Europe: "The V sign is the symbol of the unconquerable will of the people of the occupied territories and a portent of the fate awaiting the nazi tyranny. So long as the people of Europe continue to refuse all collaboration with the invader.....etc."

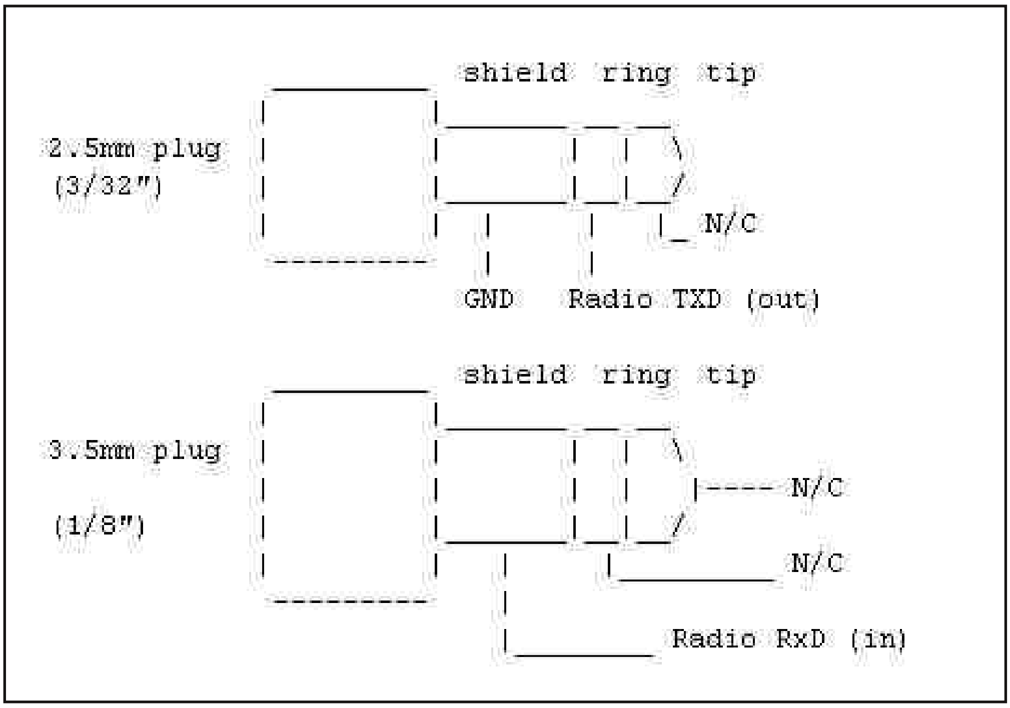
the quiet knocking campaign was a success and the Germans were duly rankled by it. In September 1941 listeners were told to organize themselves into "V radio groups."

These groups were given instructions on the building of frame aerials to improve reception and shown ways to defeat enemy jamming....

PC-PROGRAMMING CABLE FOR KENWOOD TH-G71A / TH-F6A

BY KB7QPK

I wanted to make my own cable to program my Kenwood TH-G71A ham radio with a PC, but the owner's manual simply did not show the pinout needed for the connector plugs. I searched the web but was not able to find this information but I did discover that several other radios used an RS-232-to-logic (0-3.3V) level-shifter and a Full-duplex serial connection (separate RXD / TXD), and found schematics for such interfaces for other radios. I also found a device called the "MAK interface" which claimed to work with the TH-G71A, and the web site listed an interface cable.

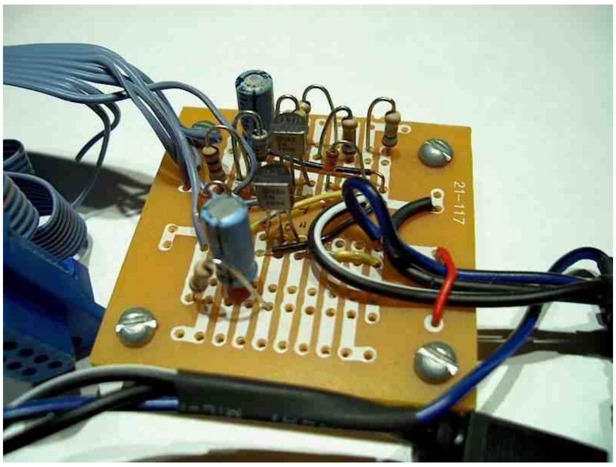


With these clues, and after studing the signals coming out of the radio (and lots of debug time ...), I finally figured out the plug connections at the radio end.

I was able to use basically the same interface schematic that was claimed to work for the Kenwood PG-4S cable (which is used for the TM-G707 / TM-V7 radios instead of the Kenwood TH-G71).

Refer to http://home.attbi.com/~kc7zru/pg4s.html for the schematic for the PG-4S interface:

The DB-9 connector to the PC is the same, but the connector on radio side is different. (Instead of the 6-pin mini-DIN connector, use the 2.5mm and 3.5mm phono plugs for the TH-G71)



Refer to Drawing at the URL above (Tate Belden's site), right hand side, starting at the top:

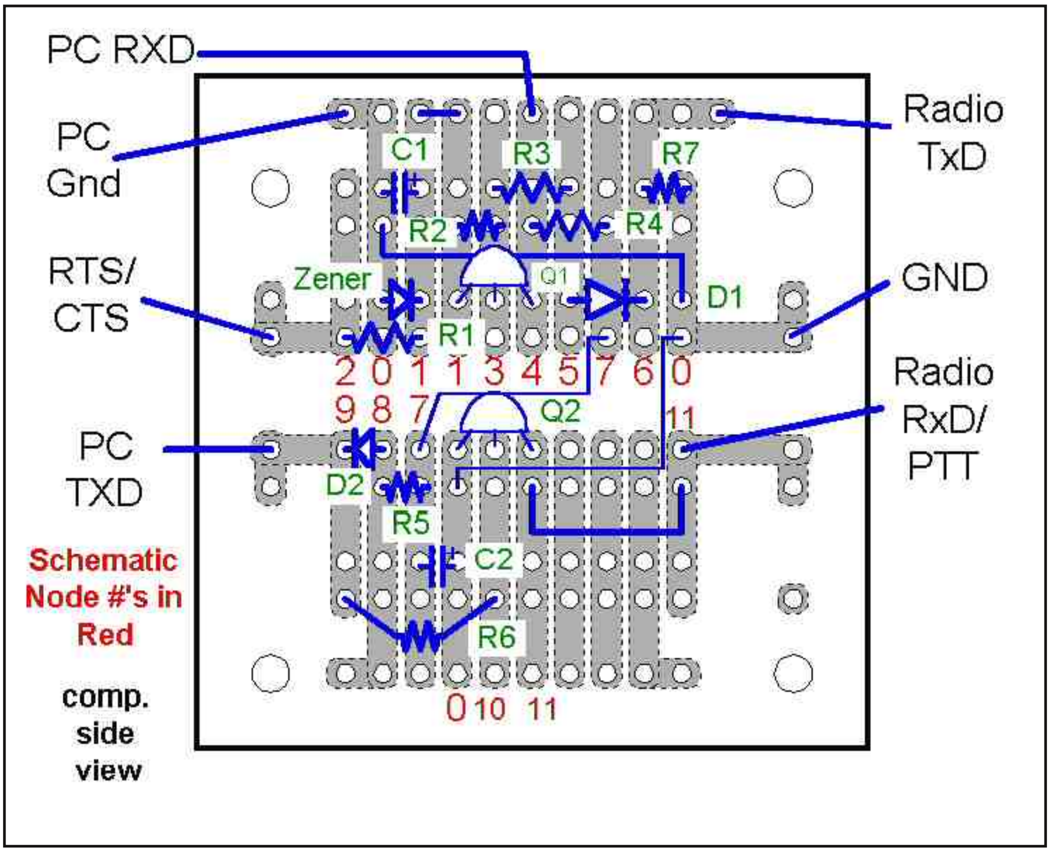
1. Ignore the tie between pins 4 and 5 of the mini-DIN connector. (There is no such tie on the TH-G71 Cable)
2. The interface's "TXD" goes to Ring of 2.5mm plug. (cathode of the diode on the interface)
3. The interface's "RxD" goes to the Shield of 3.5mm plug. (collector of NPN on interface)
4. GND goes to shield of the 2.5mm plug.
5. The tips of both plugs are No-connect.

Schematic tweaks:
Note: If you have an interface that already works on another radio such as the Kenwood TM-G707 / TM-V7, then you may not need to make these changes!

1. Change R1 from 150ohm to 1K ohm (this is the resistor feeding the zener diode). I found that 150ohms loaded the line too much and the resulting voltage was too low to power the interface from the Serial port. If you have problems, be sure that the cathode of the Zener is at about 4.9V. I found that the interface worked down to about 3.2V when I just powered this from a variable power supply instead of through the PC serial port (after removing R1 and the zener and just applying voltage at C1)
2. add a 150K ohm resistor between the Radio TXD to gnd. I did this just to keep the voltage down on the TxD pin because the radio seems to be 3.3V I/O pin (not 5V)

Update: Dec 2001: The Kenwood manual for the newer TH-F6 radio shows the pinout for the Plugs (page 46). Through Dec 17, 2001, this web page showed the Ring and Shield of the 3.5mm plug both shorted together, but I have updated the plug pinout to match the Kenwood documentation, and I confirmed that it does work as shown, without the connection to the ring.

I was able to find a 90-degree "elbow" shaped, 2.5mm stereo plug at Radio Shack (p/n 274-298).



Using the interface / software

1. For TH-G71: Menu 15, TC ON

Tranceiver Control must be enabled, or else you will get a communication timeout error when trying to communicate with the radio after connecting the cable up to your PC. "TC ON" enables the plugs on the side to work as data lines instead of as external mic/speaker.

> Press the "F" button, and then Band, turn the main tuning
> knob to Menu 15 Transceiver Control and turn it ON for
> programming. You will need to use a free com port (Com 1 or 2) on the PC.

Note: For the TH-F6 radio, the Kenwood manual states: Access Menu No. 9 and select &quotPC"

2. Kenwood Programming software

Download the PC Programming s/w from Kenwood FTP site ftp://ftp.kenwood.net or web page http://www.kenwood.net/amateur -> downloads -> software -> THG71A

You should see the files mg71200.exe and readme.txt .

Install the software and Run mcp-g71.exe. go to file menu, and be sure your com port is set correctly, then turn on radio, and plug in, and do "Radio-> Read". Try it a few times -- I found that it sometimes said something like "Communication timeout" the first time I tried after connecting up the interface.

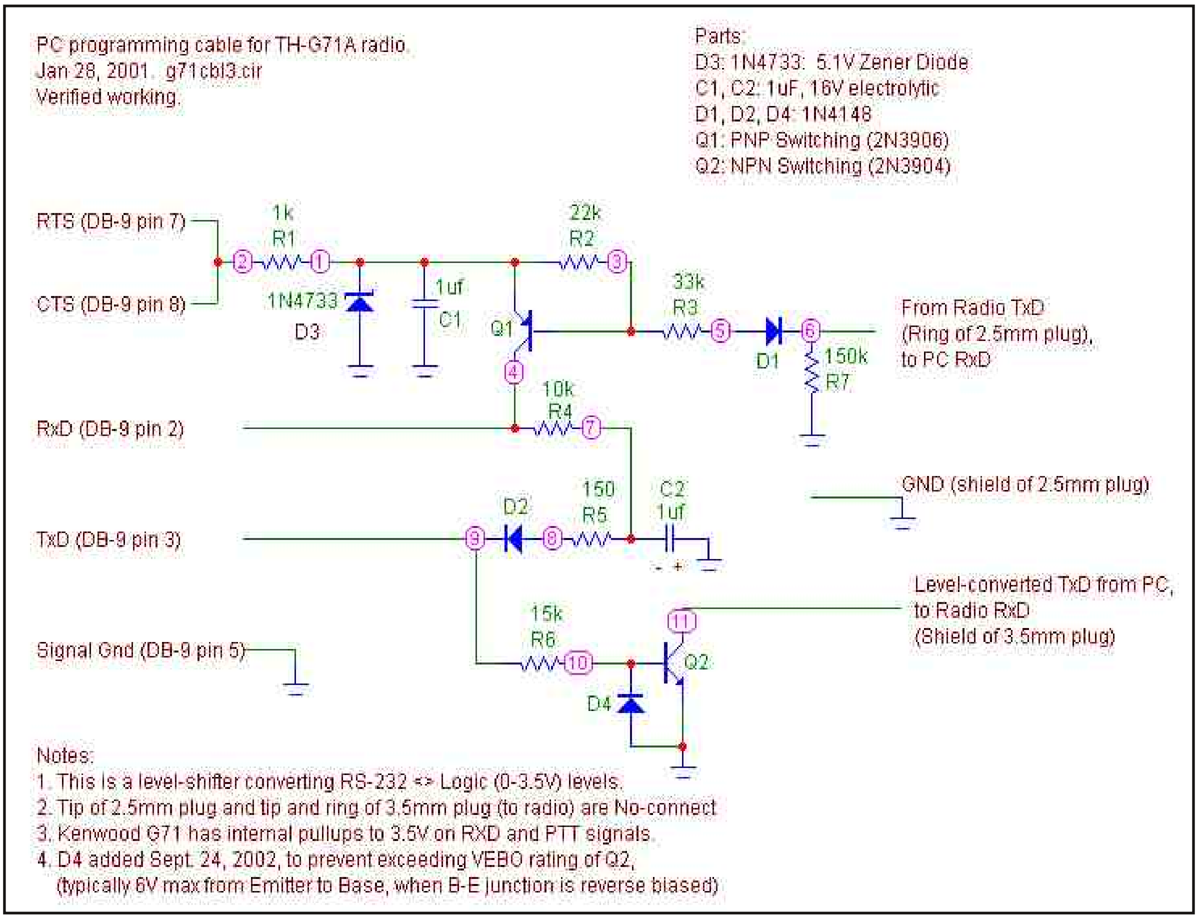
Debugging problems with the interface

1. Be sure you have done everything listed under "Use". If you are really stuck, you can try these checks:

2. Verify power + side:

1. With the interface connected to the pc, connect a meter to node 1 (cathode of the Zener) and ground.

2. In the MCP program, do radio->read (you should see "reading data from radio") As it is "trying" to read the radio, quickly check the voltage.



PC programming cable for TH-G71A radio.
Jan 28, 2001. g71cbl3.cir
Verified working.

Parts:
D3: 1N4733: 5.1V Zener Diode
C1, C2: 1uF, 16V electrolytic
D1, D2, D4: 1N4148
Q1: PNP Switching (2N3906)
Q2: NPN Switching (2N3904)

Notes:
1. This is a level-shifter converting RS-232 <> Logic (0-3.5V) levels.
2. Tip of 2.5mm plug and tip and ring of 3.5mm plug (to radio) are No-connect
3. Kenwood G71 has internal pullups to 3.5V on RXD and PTT signals.
4. D4 added Sept. 24, 2002, to prevent exceeding VEBO rating of Q2,
(typically 6V max from Emitter to Base, when B-E junction is reverse biased)

3. The voltage should be about 4-5 Volts. This is needed to power the interface from the serial port. Note: The voltage at the RTS and CTS pins of the DB-9 connector will NEGATIVE when the Com port is inactive (when you are not trying to read or write to the radio with the software). But the voltage will go POSITIVE (about 9V on my PC) when the Com port is active.

Condition	RTS/CTS Voltage
Com port idle, not reading/writing radio	about -6 to -12V
Com port active, reading/writing radio	about +6 to +12V

4. If you don't have good power here, something is wrong. (This is why I increased R1 resistance from the original schematic - as the original lower value loaded my serial port down too much due to the diode at node 1).

You can power the interface externally: Remove the rts/cts connections from the PC and just power node 1 with a battery or external power supply. This was the main problem I had getting my interface working (besides trying to figure out the pinouts of kenwood jacks).

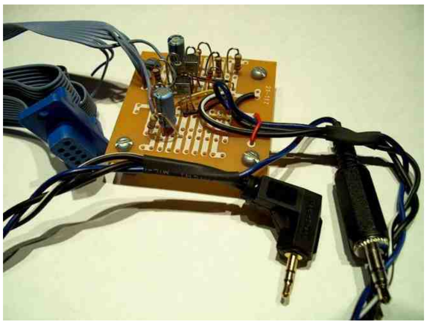
3. Verify power negative (-) side:

1. With the interface connected to the pc, connect a meter to node 7 (negative terminal of the Cap C2)
2. In the MCP program, do radio->read (you should see "reading data from radio" As it is "trying" to read the radio, quickly check the voltage.
3. The voltage should be negative (more negative than about -5 or -6V) This is needed to generate a negative voltage back to the PC RxD.
4. If this power is good in the previous steps, but the interface still does not work, recheck the interface to make sure everything is wired up correctly including all ground connections, and the pinouts the serial port DB connector. Check all part values and that the polarity of caps is correct, and that NPN and PNP transistor are wired up the correct way.
5. If that does not find any problems, I would then test the interface to be sure it does the correct level-shifting and "inversion" of the levels from the PC (RS-232) to lower-voltage for the Radio. This can be a bit tricky and you need some power supplies and clips to do this, with the interface disconnected from the PC and the Radio. Basically, you want to verify the following:
   1. With TXD (out from the radio) = 0V, the RxD to PC should be about 5V
   2. With TXD (out from the radio) = 3-5V, the RxD to PC should be between -5V to -12V.
   3. With TXD (out from the PC) between -5V to -12V, the RxD to the Radio should be "floating" (Q2 off) (and the weak pullup in radio pulls the node to a logic "high" value)
   4. With TXD (out of the PC) > 5V or so, the RxD to Radio should be 0V (Q2 is "on").

But the catch is that the interface generates the -12V (or so) by the switching on TXD. So you need to fake it out to be sure you have this voltage (which should be there in step 3c) because you don't have the interface connected to the PC anymore. Otherwise, you won't get the negative voltage in step 5B.

Programming the TH-G71

See my page for information used to program and control the TH-G71 through a serial port.
http://www.iw5edi.com/ham-radio/?kenwood-th-g71protocol,121Serial
Port command protocol is provided. This is useful if you are interested in how Kenwood's MCP memory control program works, or if you are interested in programming the radio using a PC.



Chris Koza azkoza@yahoo.com
73 ! KB7QPK

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November 2009
[N.10]

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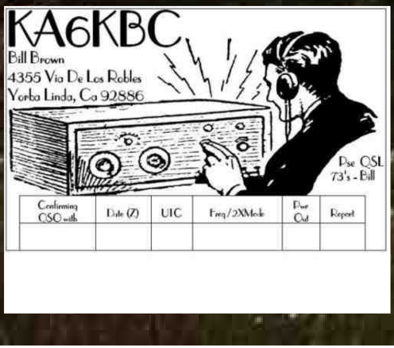
NOISE MEASUREMENT

Make your QSL card



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Pse QSL
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Confirming QSO with	Date (Z)	UTC	Freq/2XMode	Pwr Out	Report

MF & HF Antenna

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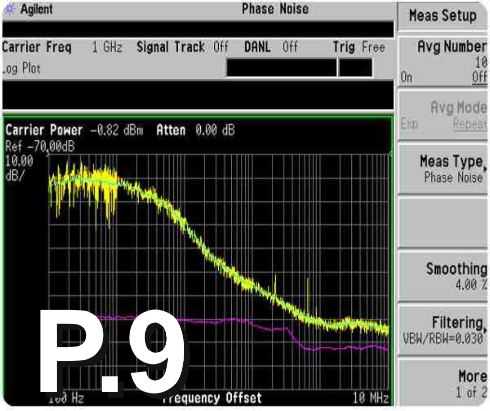

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http://www.k4mg.com

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Ant: Force 12 C3SS @ 80 Feet
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The breaking News

Buy sweeties for Halloween.

Four Radio Amateurs Killed in Plane Crash En Route to CQWW Phone Contest (Oct 21, 2009 [REVISED Oct 22, 2009 11:05 ET]) -- Just after take-off -- around 6:30 AM on Wednesday, October 21 -- a twin-engine plane carrying four Amateur Radio operators crashed into the woods, only 250 yards off the end of the runway in Jedburg, South Carolina, about 20 miles northwest of Charleston. The plane -- piloted and owned by Peter Radding, W2GJ -- carried Ed Steeble, K3IXD, Dallas Carter, W3PP, and Randy Hargenrader, K4QO. The four men were on their way to the Bahamas to operate in this weekend's CQ World Wide Phone Contest as C6APR, competing in the Multi/2 category. (Tnx ARRL)

GB7OK D-Star gateway is now live

The long awaited D-Star gateway for GB7OK is now live.

I would like to thank all who have assisted me with this project - Darren Storer G7LWT from the UK D-Star Interconnect Team for installing G2 Software and spending many days commissioning the gateway, also technical support of Justin Johnson G0KSC installing and configuring Centos operating system on the server.

Also not forgetting Martin Maynard G8CIX for contacting me in the first place to use GB7OK for Amateur Radio Station live from the Plinth in Trafalgar Square, (One & Other Live Artwork) which gave me the push to continue with this long-awaited project and the support I received from Ian Lockyer M3INL (Marketing Manager Icom UK).

Tony, G1HIG

Sunspot 1029 puts on a show

Since it emerged last weekend, new-cycle sunspot 1029 has become the biggest and most active sunspot of 2009. It is crackling with B- and C-class solar flares and putting on a good show for amateur astronomers.

This one sunspot does not put an end to solar minimum, but it is a remarkable break from the calm. Check : htttp://spaceweather.com for images and updates

Keep tabs on ISS with an iPhone

A report on The Register describes new software for the iPhone/iPod Touch that provides real time tracking of the International Space Station

The report says that on Friday NASA released an iPhone/iPod Touch application that delivers up-to-the-minute Agency news, videos, and other scienc-tastic content from the convenience of your Apple device.

Read the full The Register report at
http://www.theregister.co.uk/2009/10/23/nasa_iphone_app/

D-I-Y PATCH BOX
by Peter ZS2ABF

A practical Patch Box that works. The Patch box can be used to relay audio from one radio to another without having to use the microphone held next to a loudspeaker.
I used an old Midland CB radio mike. This allows me to break in and talk or switch off the relayed signal and just talk without having to changer plugs etc. The VU meter monitors the Audio into the output part of the circuit, at the output of the step down transformer.

If you are recording sounds from a radio in a computer and you do not have enough audio output from this box, then just reverse the step down transformer. The position shown works ok for my set up. The meter, diode and, potty circuit are not necessary, but can be added as a “Brag” feature.
I am using this output into a Kenwood which has the Network type mic socket. You may have to modify the output cable to attach a plug of the type to suit your personal equipment.

The two variable potties are shown with a + - value and can be substituted for another suitable value that works for you. It’s a nice easy to build project, and can be a useful gadget to have in your Shack.

73’s ZS2ABF

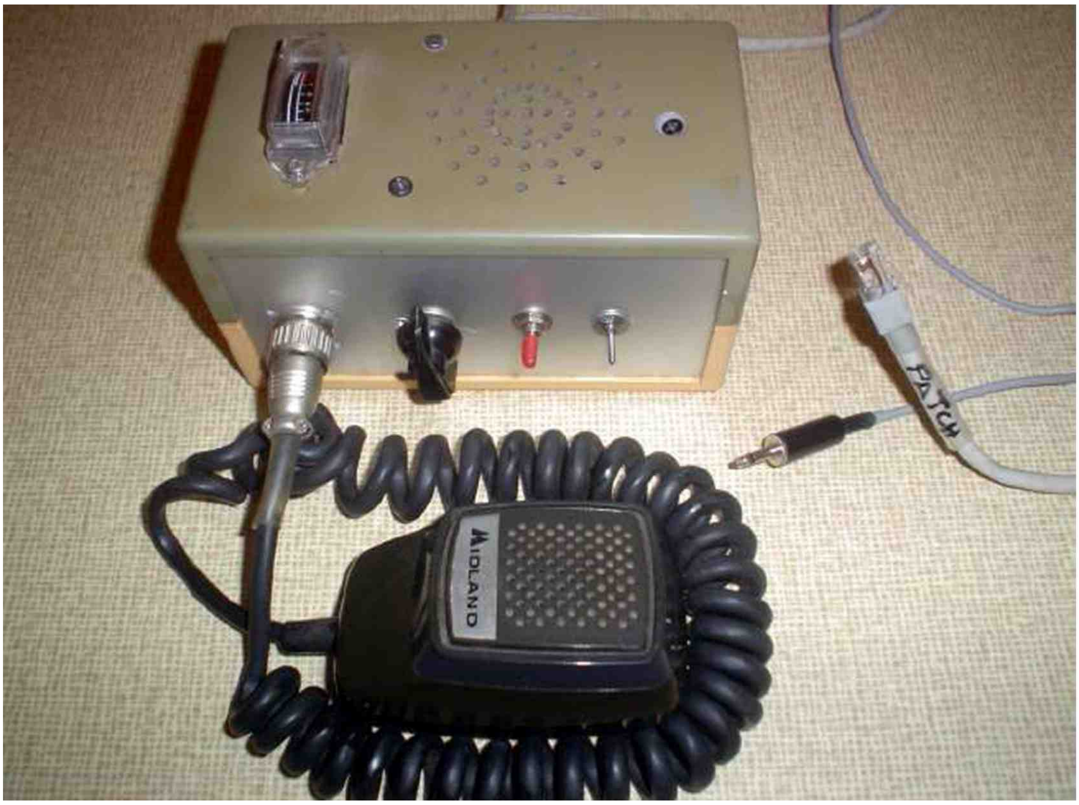
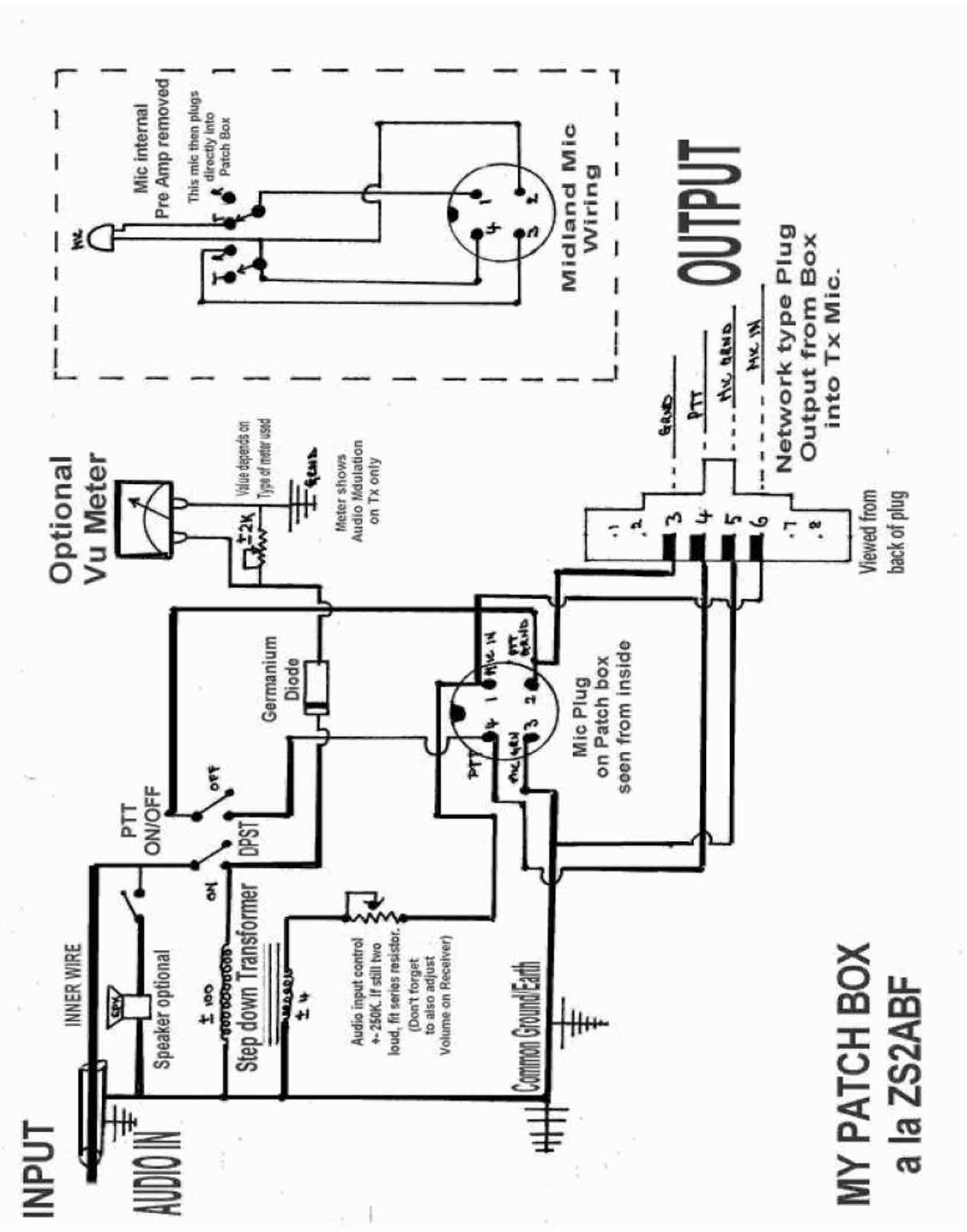


Photo of the finished BOX

CIRCUIT DIAGRAM – Patch box circuit


INPUT
AUDIO IN
INNER WIRE
SPK
Speaker optional
± 100
Step down Transformer
± 4
ON
DPST
OFF
PTT ON/OFF
Audio input control +-250K. If still two loud, fit series resistor. (Don't forget to also adjust Volume on Receiver)
Common Ground/Earth
Germanium Diode
Optional Vu Meter
±2K
Value depends on Type of meter used
GRND
Meter shows Audio Mdulation on Tx only
MIC IN
PTT GRND
PTT
MIC GRN
1
2
3
4
Mic Plug on Patch box seen from inside
MIC
Mic internal Pre Amp removed
This mic then plugs directly into Patch Box
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OUTPUT
GRND
PTT
MIC GRND
MIC IN
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1
2
3
4
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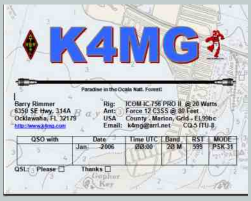
HomeBrew - QSL Cards
By KA6KBC, Bill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	Jan. 2006	00:00	20 M	599	PSK 31

QSL: Please ☐ Thanks ☐

I remember as a young amateur the excitement of going to the mailbox and finding a QSL card from an earlier QSO. This is what it's all about. It reinforces the personal aspect of the hobby. I encourage you to experiment with your photography and desktop publishing techniques to produce QSL cards you are proud of. A QSL card is a specially designed postcard that hams exchange in the mail whenever they make contact with one another for the first time. Hams exchange cards in friendship and to prove that they actually made radio contact.

Each ham’s QSL card has a unique design that may include words and pictures about his or her family, friends, and places that are special to them. The cards also include information about the ham’s call sign, radio contact equipment, date, time and type of contact, and geographic location of the ham. One of the best things about being a ham radio operator is the chance to talk to people on the other side of town, the other side of the state or even the other side of the planet that you wouldn't have otherwise met. Ham radio operators traditionally exchange QSL cards through the mail to confirm that mutual contact has occurred. A custom QSL card is truly a collector's item for the people you contact. Fortunately, with a little help from your computer and printer, they're easy and fun to make.

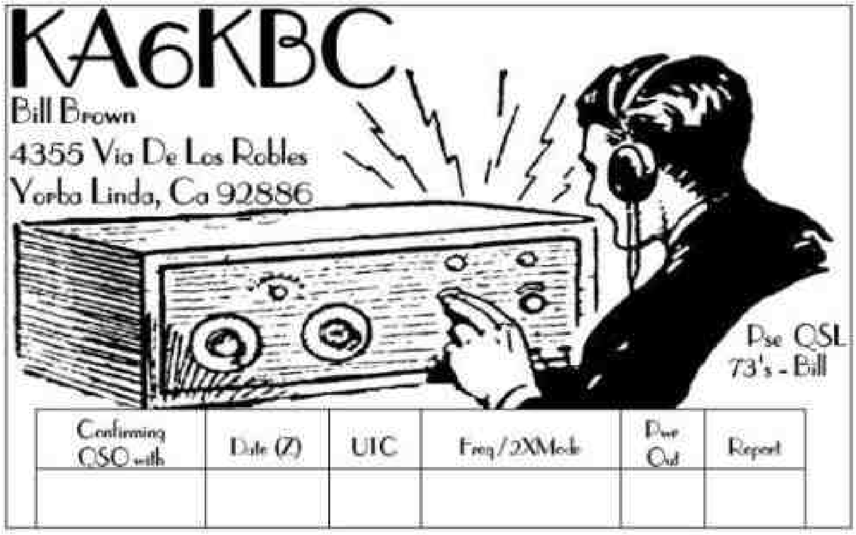
How to Make a Custom QSL Card:

From your PC:

There is nice software that can be down loaded – QSL Maker, developed by WB8RCR let’s you design and print your own QSL cards, allowing to personalize background, by importing pictures or just filling with a plain color, and let’s you personalize headings and address as well as your own callsign. It can import ADIF log file for fields auto-filling during the print process, or allow you to insert directly QSO Data into a table. It runs on Windows, I've tested it on Windows XP, and is completely Free ! Works great. You can make a very custom QSL Cards.

http://qslmaker.mi-nts.org/

Sample Card: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Bill Brown
4355 Via De Los Robles
Yorba Linda, Ca 92886

Pse QSL
73's - Bill

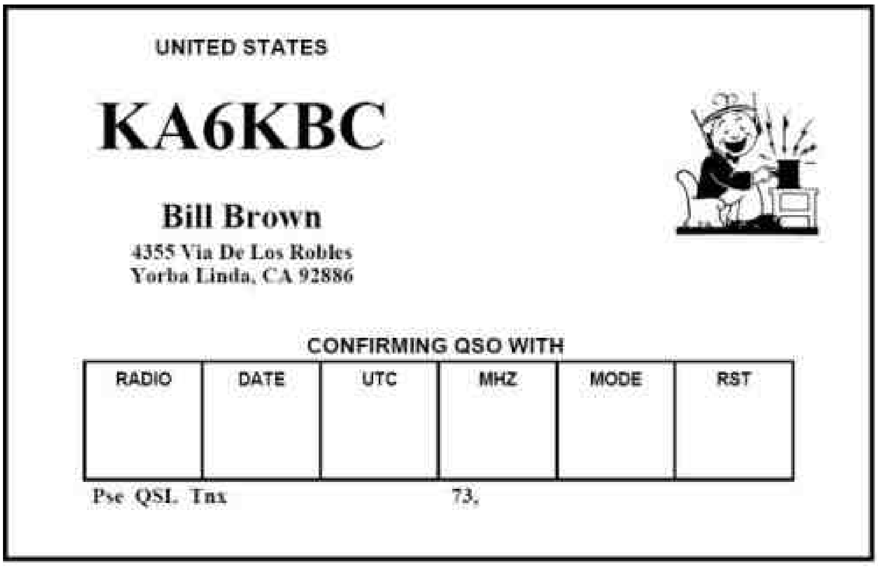
Confirming QSO with	Date (Z)	UTC	Freq / 2XMode	Pwr Out	Report

On-Line Only:

The website RadioQTH offers a very nice service. You can use this web page to create QSL cards. You don't even need to get a login to use the service. The cards will be created in the form of a PDF document that you can then print on light-weight card stock. The individual cards can then be cut out and the information filled in and mailed to the intended recipient. You have the option of printing a single QSL card or printing up to four cards per page. The cards are printed 5.5 inches wide by 3.5 inches high. This is a standard size for a QSL card. It allows you to personalize background, by importing pictures and you can also do some color selection. Less custom, but very easy to use and nothing to download.

http://www.radioqth.net/qsl.aspx

Sample:



UNITED STATES

KA6KBC

Bill Brown

4355 Via De Los Robles
Yorba Linda, CA 92886

CONFIRMING QSO WITH

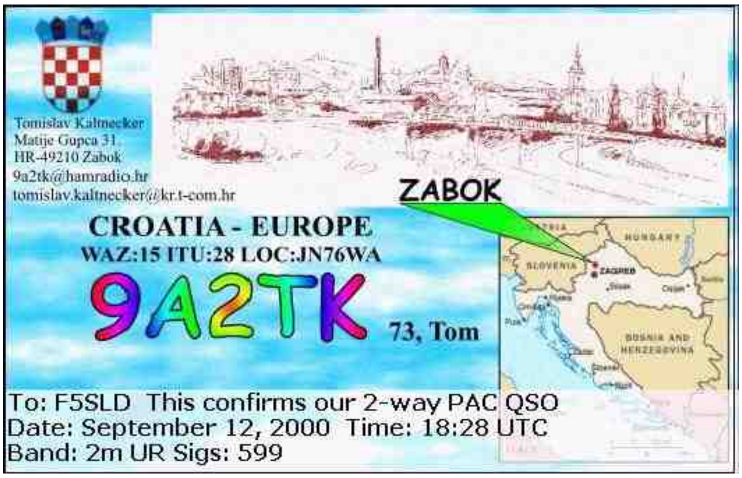
RADIO	DATE	UTC	MHZ	MODE	RST

Pse QSL Tnx 73.

73's – Bill – KA6KBC
http://billbrwn.tripod.com/id23.html

Note from F5SLD.
You can also have you QSL on line (with your log) in the website :
http://www.eqsl.cc/qslcard/Index.cfm

Sample :



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ZABOK

CROATIA - EUROPE
WAZ:15 ITU:28 LOC:JN76WA

9A2TK 73, Tom

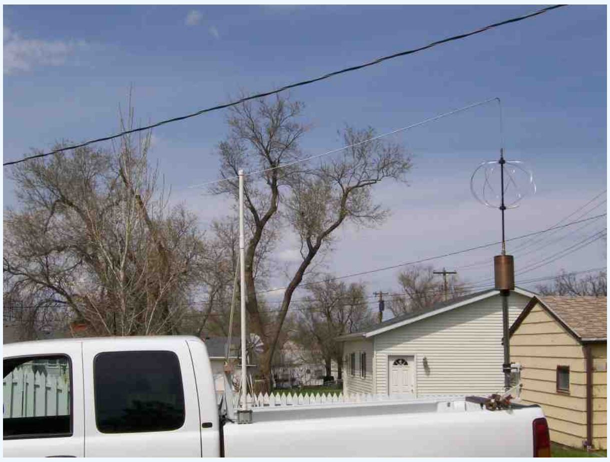
To: F5SLD This confirms our 2-way PAC QSO
Date: September 12, 2000 Time: 18:28 UTC
Band: 2m UR Sigs: 599

HUNGARY
SLOVENIA
ZAGREB
BOSNIA AND HERZEGOVINA

NO SPACE LEFT ? TRY A MOBILE STATION BY K0HL

Hello,

I have a modest ham radio station installed in my pickup truck, you and your readers may find it interesting. My intention is to supply you some raw material; if you feel the material has merit for your magazine, feel free to ask for more information. I am supplying you essentially teaser pictures, you may use them in any way you desire. I can supply better photos if you need them.



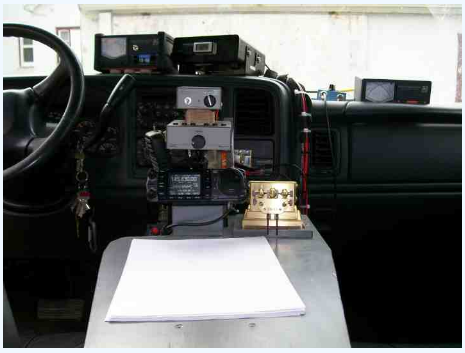
This is not meant to be a step by step article on how to do a mobile installation. I will be very brief, if you want more, you will have to ask?

Background information:

My QTH is not amenable to installing a base station. If I am to participate in ham radio then it has to be from my mobile.

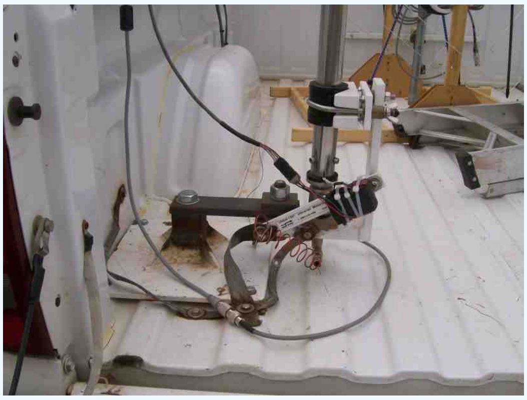
Installing a ham radio station in a mobile is not an endeavor for the faint of heart. There are many difficulties along the road to having a good working EFFECTIVE ham radio station in a mobile. I do not want to discourage anyone from trying this, but, go in with both eyes open, and expect this to be moderately costly.

Difficulties you should expect:



1) Getting adequate 12 DC through the firewall of your vehicle, firewalls are crowded to the extreme, the surfaces available are either at an acute angle and hard to drill, or access is blocked. One of the key ingredients in a good EFFECTIVE mobile ham radio station is an adequate supply of DC.

2) Mounting you antenna: Ground losses are your biggest problem. If you mount your antenna properly, your ground losses will be low and your signal will be large. It’s your choice, mount your antenna in the proper location, or suffer the loss of performance that is a certainty with a poor location. Physically mounting the antenna to withstand a driving speed of 80 MPH into a 25 MPH headwind, along with the normal pitching and heaving of the vehicle as it traverses the roadway is a serious problem. You need a strong mount. NO MAG MOUNTS! If you cannot bring yourself to drill holes in your vehicle, give up now - take up playing cards.



3) Common mode (CM): The nemesis of mobile installations. Plan on having CM, ferrite beads and lots of them. Do not spare the beads.

4) Noise: Electronic nose of a dozen varieties will test your patience to the limit. EXPECT IT, expect it to be very hard to eliminate.

There, that is my teaser.

73, K0HL

NOISE: Measurement and Generation

By Paul Wade N1BWT

Introduction

As anyone who has listened to a receiver suspects, everything in the universe generates noise. In communications, the goal is to maximize the desired signal in relation to the undesired noise we hear. In order to accomplish this goal, it would be helpful to understand where noise originates, how much our own receiver adds to the noise we hear, and how to minimize it.

It is difficult to improve something unless we are able to measure it. Measurement of noise in receivers does not seem to be clearly understood by many amateurs, so I will attempt to explain the concepts and clarify the techniques, and to descrive the standard “measure of merit” for receiver noise performance: “noise figure.” Most important, I will describe how to build your own noise generator for noise figure measurements. A number of equations are included, but only a few need be used to perform noise figure measurements. The rest are included to as an aid to understanding, with, I hope, enough explanatory text for everyone.

Noise

The most pervasive source of noise is thermal noise, due to the motion of thermally agitated free electrons in a conductor. Since everything in the universe is at some temperature above absolute zero, every conductor must generate noise. Every resistor (and all conductors have resistance) generates an rms noise voltage:

$$e = \sqrt{4kTRB}$$

Where R is the resistance, T is the absolute temperature in degrees ***K***, B is the bandwidth in Hertz, and k is Boltzmann’s constant, 1.38 x 10-23 joules / ***K***.

Converting to power, e^2 /R , and adjusting for the Gaussian distribution of noise voltage, the noise power generated by the resistor is:

$$P_n = kTB \text{ (watts)}$$

Which is independent of the resistance. Thus, all resistors at the same temperature generate the same noise power. The noise is white noise, meaning that the power density does not vary with frequency, but always has a power density of kT watts/Hz. More important is that the noise power is directly proportional to absolute temperature T, since k is a constant. At the nominal ambient temperature of 290 ***K***, we can calculate this power; converted to dBm, we get the familiar -174 dBm/Hz. Just multiply by the bandwidth in Hertz to get the available noise power at ambient temperature. The choice of 290 ***K*** for ambient might seem a bit cool, since the equivalent 17° C or 62° F would be a rather cool room temperature, but 290 makes all the calculations come out to even numbers.

The instantaneous noise voltage has a Gaussian distribution around the rms value. The gaussian distribution has no limit on the peak amplitude, so at any instant the noise voltage may have any value from -infinity to +infinity. For design purposes, we can use a value that will not be exceeded more than 0.01% of the time. This voltage is 4 times the rms value, or 12 dB higher, so our system must be able to handle peak powers 12 dB higher than the average noise power 1 to if we are to measure noise without errors.

Signal to Noise Ratio

Now that we know the noise power in a given bandwidth, we can easily calculate how much signal is required to achieve a desired signal to noise ratio, S/N. For SSB, perhaps 10 dB S/N is required for good communications; since ambient thermal noise in a 2.5 KHz bandwidth is -140 dBm, calculated as follows:

$P_n = kTB = 1.38 \times 10^{-23} \times 290 \times 2500 = 1.0 \times 10^{-17}$ watts
dBm = 10log (P_n x 1000) [multiplying the power by 1000 to get milliwatts]

The signal power must be 10 dB larger, so minimum signal level of -130 dBm is required for a 10 dB S/N. This represents the noise and signal power levels at the antenna. We are then faced with the task of amplifying the signal without degrading the signal to noise ratio.

Noise Temperature

Any amplifier will add additional noise. The input noise Ni per unit bandwidth is kT_g is amplified by gain G to produce an output noise of kT_gG. The additional noise, kTn is added to produce a total noise output power No:
$No = kT\mathit{g}G + kT_n$
To simplify future calculations, we pretend that the amplifier is noise-free but has an additional noise generating resistor of temperature Te at the input, so that all sources of noise are inputs to the amplifier. Then the output noise is:
$No = kG (T_g + T_e)$
And Te is the Noise Temperature of the excess noise contributed by the amplifier. The noise added by an amplifier is then kGT_e, which is the fictitious noise source at the input amplified by the amplifier gain.

Cascaded Amplifiers

If several amplifiers are cascaded, the output noise No of each becomes the input noise Tg to the next stage, we can create a large equation for the total. After removing the original input noise term, we are left with the added noise:

$Nadded = (k T_e1G1G2... GN) + (kT_e2G2... GN) + ... + (kT_eNGN)$
Substituting in the total gain GT = (G1G2... GN) results in the total excess noise:
$T_eT = T_e1 + T_e2 /G1 + T_e2 /G1G2 + ... + T_eN /(G1G2... GN-1)$

With the noise of each succeeding stage reduced by the gain of all preceeding stages.
Clearly, if the gain of the first stage, G1, is large, then the noise contributions of the succeeding stages are not significant. This is why we concentrate our efforts on improving the first amplifier or preamplifier.

Noise Figure

The noise figure of an amplifier is the logarithm of the ratio (so we can express it in dB) of the total noise output of an amplifier with an input T_g of 290 ***K*** to the noise output of an equivalent noise-free amplifier. A more useful definition is to calculate it from the excess temperature T_e:
$NF = 10\log(1 + T_e /T_0)$ (dB) @ $T_0 = 290$ ***K***
If the NF is known, then Te may be calculated after converting the NF to a ratio, F:
$T_e = (F -1) T_0$
Typically, Te is specified for very low noise amplifiers, where the NF would be fraction of a dB, and NF is used when it seems a more manageable number than thousands of ***K***.

We know that any loss or attenuation in a system reduces the signal level. If attenuation also reduced the noise level, then we could suppress thermal noise by adding attenuation. We know intuitively that this can't be true. The answer is that the attenuator or any lossy element has a physical temperature, Tx, which contributes noise to the system while the input noise is being attenuated. The output noise after a loss L (ratio) is:

$T_{g'} = T_g /L + [(L-1)/L]\ Tx$

If the source temperature Tg is higher than the attenuator temperature Tx , then the noise contribution is the familiar result found by simply adding the loss in dB to the NF. However, for low source temperatures the degradation can be much more dramatic. If we do a calculation for the affect of 1 dB of loss (L = 1.26) on a T_g of 25 K:

$T_{g'} = 25/1.26 + (0.26/1.26) \times 290 = 80$ K

The resultant $T_{g'}$ is 80 K, a 5 dB increase in noise power (or 5 dB degradation of signal to noise ratio). Since noise power = kT and k is a constant, the increase is the ratio of the two temperatures 80/25, or in dB, 10log(80/25) = 5 dB.

Antenna Temperature

How can we have a source temperature much lower than ambient? If an antenna, assumed to be lossless, is receiving signals from space, rather than the warm earth, then the background noise is much lower. The background temperature of the universe has been measured as about 3.2 K. An empirical number 2 for a 10 GHz antenna pointing into clear sky is about 6 K, since we must always look through attenuation and temperature of the atmosphere. The figure will vary with frequency, but a good EME antenna might have a T_g of around 20 K at UHF and higher frequencies.

A couple of examples of actual antennas3 might bring all of this together.

1. A 30 inch conventional dish at 10 GHz, with measured gain of 36.4 dBi and efficiency of 64%. The estimated spillover efficiency is 87% for a 10 dB illumination taper. With the dish pointing at a high elevation as shown in Figure 1, perhaps half of the spillover is illuminating earth at 290 K, which adds an estimated 19 K to the 6 K of sky noise, for a total of 25 K. In a 500 Hz bandwidth, the noise output is -157.6 dBm.

2. An 18 inch DSS offset-fed dish at 10 GHz, with measured gain of 32.0 dB and efficiency of 63%. The spillover efficiency should be comparable, but with the offset dish pointing at a high elevation as shown in Figure 2, far less of the spillover is illuminating warm earth. If we estimate 20%, then 8 K is added to the 6 K of sky noise, for a total of 14 K. In a 500 Hz bandwidth, the noise output is -160 dBm.

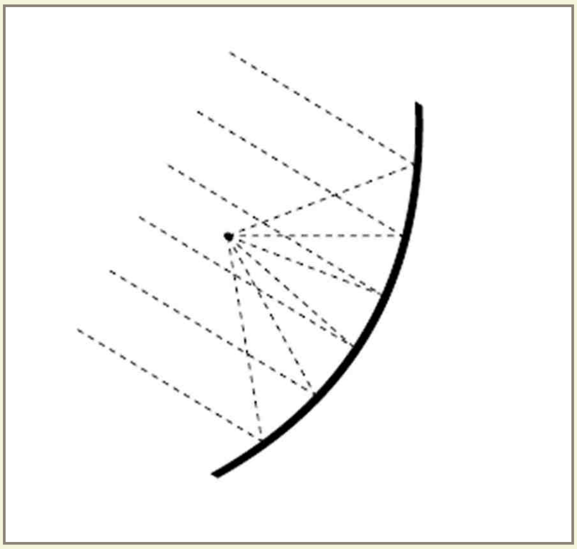


Fig.1. Parabolic Dish Antenna Aimed at Satellite

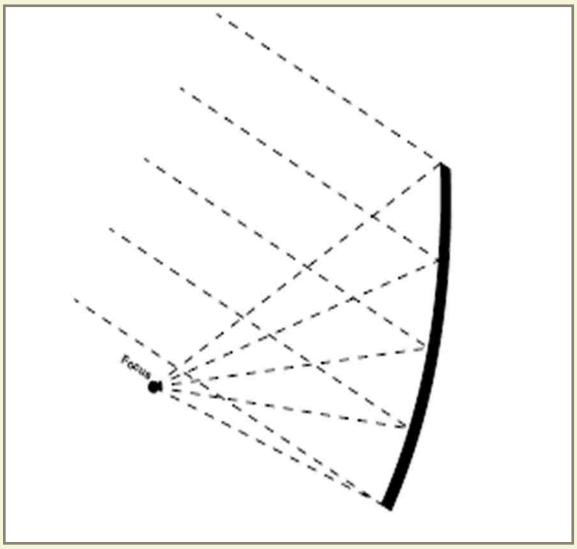


Fig.2. Offset Parabolic Dish Antenna Aimed at Satellite

The larger conventional dish has 2.4 dB higher noise output, but 4.4 dB higher gain, so it should have 2.0 dB better signal to noise ratio than the smaller offset dish when both are pointing at high elevations. However, the while the offset dish is easy to feed with low loss, it is convenient to feed the conventional dish through a cable with 1 dB of loss. Referring back to our loss example above, the noise temperature after this cable loss is 80 K. In a 500 Hz bandwidth, the noise output is now -152.6 dBm, 7.4 dB worse than the offset dish. The convenience of the cable reduces the signal to noise ratio by 5 dB, making the larger conventional dish 3 dB worse than the smaller offset dish. Is it any wonder that the DSS dishes sprouting on rooftops everywhere are offset-fed?
If the dishes are pointed on the horizon for terrestrial operation, then the situation is much different. At least half of each antenna pattern is illuminating warm earth, so we should expect the noise temperature to be at least half of 290 K, or about 150 K. Adding 1 dB of loss increases the noise temperature to 179 K, a 1 dB increase. At the higher noise temperatures, losses do not have a dramatic effect on signal to noise ratio. In practice, the antenna temperature on the horizon may be even higher, since the upper half of the pattern must take a much longer path through the warm atmosphere, which adds noise just like any other loss.

Image Response

Most receiving systems use at least one frequency converting mixer which has two responses, the desired frequency and an image frequency on the other side of the local oscillator. If the image response is not filtered out, it will add additional noise to the mixer output. Since most preamps are broadband enough to have significant gain (and thus, noise output) at the image frequency, the filter must be placed between the preamp and the mixer. The total NF including image response is calculated:
$NF = 10\log[\ (1 + T_e / T_0)(\ 1 + G_{image}/G_{desired})\ ]$
assuming equal noise bandwidth for desired and image responses. Without any filtering,
$G_{image} = G_{desired}$ so $G_{image}/G_{desired} = 1$

Doubling the noise figure which is the same as adding 3 dB. Thus, without any image rejection, the overall noise figure is at least 3 dB regardless of the NF of the preamp. For the image to add less than 0.1 dB to the overall NF, a quick calculation shows that the gain at the image frequency must be at least 16 dB lower than at the operating frequency.

Noise Figure Measurement

So far we have dixcussed the sources of noise, and a figure of for evaluating the a receiving system's response to noise. How can we measure an actual receiver?
The noise figure of a receiver is determined by measuring its output with two different noise levels, Thot and Tcold, applied at the input. The ratio of the two output levels is referred to as the "***Y-factor***". Usually, the ratio is determined from the difference in dB between the two output levels,
Ydb: $Y_{(ratio)} = \log^{-1}(Ydb / 10)$
Then the receiver Te may be calculated using $Y_{(ratio)}$:
$Te = (T_{hot} - YT_{cold}) / (Y-1)$
and converted to noise figure:
$NF = 10\log(1 + T_e / T_0)$ (dB) where $T_0 = 290$ K

The two different noise levels may be generated separately, for instance by connecting resistors at two different temperatures. Alternatively, we could use a device that can generate a calibrated amount of noise when it is turned on. When such a device is turned off, it still generates noise from its internal resistance at T_{cold}, the ambient temperature (290 K); usually this resistance is 50 ohms, to properly terminate the transmission line which connects it to the receiver.When the noise generator is turned on, it produces excess noise equivalent to a resistor at some higher temperature at Thot.

The noise produced by a noise source may be specified as the Excess Noise Ratio (ENR_{dB}), the dB difference between the cold and the equivalent hot temperature, or as the equivalent temperature of the excess noise, Tex, which is used in place of Thot in the previous equation. If the ENR is specified, then the calculation is:

$NF_{dB} = ENR_{dB} - 10\log(Y_{(ratio)} - 1)$

The terms Tex and ENR are used rather loosely; assume that a noise source specified in dB refers to ENR_{dB}, while a specification in degrees or K refers to Tex.

An automatic noise figure meter, sometimes called a PANFI (for Precision Automatic Noise Figure Meter), turns the noise source on and off at a rate of about 400 Hz and performs the above calculation electronically. A wide bandwidth is required to detect enough noise to operate at this rate; a manual measurement using a narrowband communications receiver would require the switching rate to be less than one Hz, with some kind of electronic integration to properly average the gaussian noise.

Noise figure meters seem to be fairly common surplus items. The only one in current production, the HP 8970, measures both noise figure and gain, but commands a stiff price.

AIL (later AILTECH or Eaton) made several models; the model 2075 measures both NF and gain, while other models are NF only. The model 75 (a whole series whose model numbers start with 75) shows up frequently for anywhere from $7 to $400, typically $25 to $50 and performs well. Every VHFer I know has one, with most of them waiting for a noise source to be usable. Earlier tube models, like the AIL 74 and the HP 340 and 342, have problems with drift and heat, but they can also do the job.

Another alternative is to build a noise figure meter5.

Using the Noise Figure Meter

I'll describe the basic procedure using the Model 75; others are similar, but the more complex instruments will require studying the instruction manual. Input to almost all noise figure meters is at 30 MHz, so a frequency converter is required (some instruments have internal frequency converters; except for the HP 8970, I'd avoid using this feature). Most ham converters with a 28 MHz IF work fine, unless the preamp being measured is so narrowband that a MHz or two changes the NF. The input is fairly broadband, so LO leakage or any other stray signals can upset the measurement ¾ this has been a source of frustration for many users. There are two solutions: a filter (30 MHz low-pass TVI filters are often sufficient) or a tuned amplifier at 30 MHz. Since a fair amount of gain is required in front of the noise figure meter, an amplifier is usually required anyway.

A noise source (which we will discuss in detail later) is connected to the rear of the instrument: a BNC connector marked “DIODE GATE” provides +28 volts for a solidstate noise source, and high voltage leads for a gas tube noise source are also available on many versions. The noise figure meter switches the noise source on and off. The noise output coax connector of the noise source is connected to the receiver input. The model 75 has four function pushbuttons: OFF, ON, AUTO, and CAL. The OFF and ON positions are for manual measurements: OFF displays the detector output with the noise source turned off, and ON displays the detector output with the noise source turned on. If all is working, there should be more output in the ON position, and a step attenuator in the IF line may be used to determine the change in output, or Y-factor, to sanity-check our results. The knob marked “GAIN” is used to get the meter reading to a desirable part of the scale in the OFF and ON positions only; it has no effect on automatic measurements.

The AUTO position causes the instrument to turn the noise source on and off at about a 400 Hz rate and to calculate the NF from the detected change in noise. The model 75 has a large green light near the meter which indicates that the input level is high enough for proper operation ¾ add gain until the light comes on. Then the meter should indicate a noise figure, but not a meaningful one, since we must first set the ENRdB using the CAL position. The lower scale on the meter is marked for from 14.5 to 16.5 dB of ENR; adjust the “CAL ADJ” knob until the reading in the CAL position matches the ENR of the noise source. If the ENR of your noise source is outside the marked range, read the section below on homebrew noise sources.

Now that we have calibrated the meter for the ENR of the noise source, we may read the noise figure directly in the AUTO position. Before we believe it, a few sanity checks are in order:

1. Manual Y-factor measurement and calculation.

2. Insert a known attenuator between the noise source and preamp ¾ the NF should increase by exactly the attenuation added.

3. Measure something with a known noise figure (known means measured elsewhere; a manufacturers claim is not necessarily enough).

Finally, too much gain in the system may also cause trouble, if the total noise power exceeds the level that an amplifier stage can handle without gain compression. Gain compression will be greater in the on state, so the detected Y-factor will be reduced, resulting in erroneously high indicated NF. The Gaussian distribution of the noise means that an amplifier must be able to handle 12 dB more than the average noise level without compression. One case where this is a problem is with a microwave transverter to a VHF or UHF IF followed by another converter to the 30 MHz noise figure meter, for too much total gain. I always place a step attenuator between the transverter and the converter which adjust until I can both add and subtract attenuation without changing the indicated noise figure.

One final precaution: noise figure meters have a very slow time constant, as long as 10 seconds for some of the older models, to smooth out the random nature of noise. If you are using the noise figure meter to “tweak” a receiver, tune very slowly!

Sky Noise Measurement

Another way to measure noise figure at microwave frequencies is by measurement of sky noise and ground noise3,6. Sky noise is very low, around 6 K at 10 GHz, for instance, and ground noise is due to the ground temperature, around 290 K, so the difference is nearly 290 K. At microwave frequencies we can use a manageable antenna that is sharp enough that almost no ground noise is received, even in sidelobes, when the antenna is pointed at a high elevation. A long horn would be a good antenna choice. The antenna is pointed alternately at clear sky overhead, away from the sun or any obstruction, and at the ground. The difference in noise output is the Y-factor; since we know both noise temperatures, the receiver noise temperature is calculated using the Y(ratio):

$T_e = (T_{hot} - YT_{cold}) / (Y-1)$

The latest version of my microwave antenna program3, HDLANT21, will make this calculation. Since the measured Y-factor will be relatively small, this measurement will only be accurate for relatively low noise figures. On the other hand, they are the most difficult to measure accurately using other techniques. A system for measuring sun noise was described by Charlie, G3WDG7, which also works well for measuring noise figure from sky noise. He built a 144 MHz amplifier with moderate bandwidth using MMICs and helical filters which amplifies the transverter output to drive a surplus RF power meter. The newer solid-state power meters are stable enough to detect and display small changes in noise level, and the response is slow enough to smooth out flicker. Since my 10 GHz system has an IF output at 432 MHz, duplicating Charlie’s amplifier would not work. In the junk box I found some surplus broadband amplifiers and a couple of interdigital filters, and combined these to provide high gain with a few MHz bandwidth, arranged as shown in Figure 3. I found that roughly 60 dB of gain after the transverter was required to get a reasonable level on the power meter, while the G3WDG system has somewhat narrower bandwidth so more gain is required.

Several precautions are necessary:

1. Peak noise power must not exceed the level that any amplifier stage can handle without gain compression. Amplifiers with broadband noise output suffer gain compression at levels lower than found with signals, so be sure the amplifier compression point is at least 12 dB higher than the indicated average noise power.

2. Make sure no stray signals appear within the filter passband.

3. Foliage and other obstructions add thermal noise which obscure the cold sky reading.

4. Low noise amplifiers are typically very sensitive to input mismatch, so the antenna must present a low VSWR to the preamp.

A noise figure meter could also be used as the indicator for the sky noise measurement, but a calibrated attenuator would be needed to determine the Y-factor. Using different equipment gives us an independent check of noise figure, so that we may have more confidence in our measurements.

W2IMU8 suggested that the same technique could be used for a large dish at lower frequencies. With the dish pointing at clear sky, the feedhorn is pointing at the reflector which shields it from the ground noise so it only sees the sky noise. If the feedhorn is then removed and pointed at the ground, it will then see the ground noise. Noise figure meters are convenient, but if you don't have one, the equipment for measuring sun and sky noise could also be used indoors with a noise source. The only complication is that the Y-factor could be much larger, pushing the limits of amplifier and power meter dynamic range.

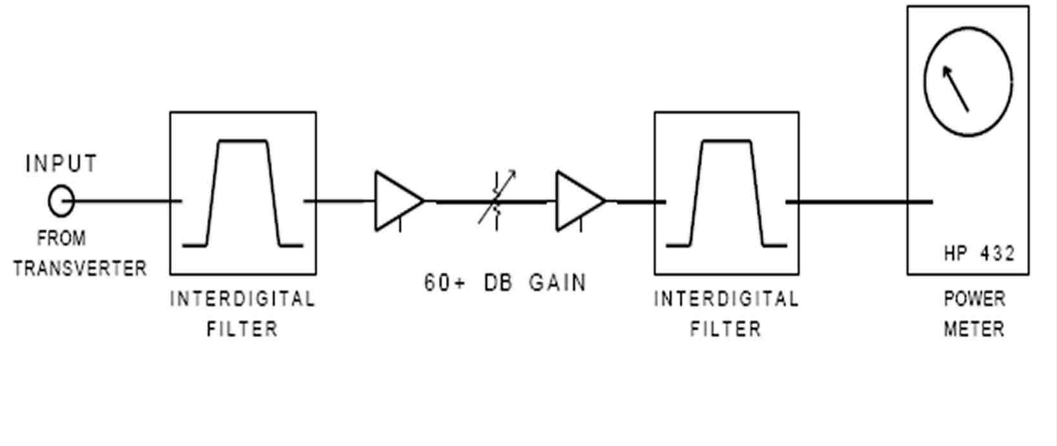


FIGURE 3. INDICATOR FOR SUN NOISE

Noise Sources

The simplest noise source is simply a heated resistor ¾ if we know the temperature of the resistor, we can calculate exactly how much noise it is generating. If we then change the temperature, the noise output will change by a known amount. This would work if we could find a resistor with good RF properties whose value does not change with temperature, an unlikely combination. There are commercial units, called Hot-Cold Noise Sources, with two calibrated resistors at different temperatures with low VSWR. Typically, one resistor is cooled by liquid nitrogen to 77.3 K (the boiling point of nitrogen), while the other is heated by boiling water to 100°C, or 373.2 K. The preamp is connected to first one resistor, then the other; the difference in noise in noise output is the Y-factor. Using the Y(ratio), the preamp noise temperature is calculated:

$T_e = (T_{hot} - YT_{cold}) / (Y-1)$

Since the boiling point of pure liquids is accurately known, this type of noise generator can provide very accurate measurements. However, they are inconvenient to use, since the receiver must be connected directly to alternate resistors (the loss in an RF switch would significantly reduce the noise output and accuracy). Also, few amateurs have a convenient source of liquid nitrogen.

Three types of noise sources are commonly available and convenient to use:

1. Temperature-limited vacuum tube diode. The noise output is controlled by the diode current, but is only accurate up to around 300 MHz due to limitations of the vacuum tube. These units generate around 5 dB of excess noise.

2. Gas tube sources. The noise is generated by an ionized gas in the tube, similar to a fluorescent light ¾ homebrew units have been built using small fluorescent tubes. The noise tubes use a pure gas, typically argon, to control the noise level. These units typically generate about 15 dB of excess noise. Coaxial gas tube sources work up to around 2.5 GHz, and waveguide units to much higher frequencies. One problem using these is that a high voltage pulse is used to start the ionization (like the starter in a fluorescent light) which is coupled to the output in the coaxial units and is large enough to damage low-noise transistors. Since a noise figure meter turns the noise source on and off continuously, pulses are generated at the same rate. Since waveguide acts as a high-pass filter, the starting pulses are not propagated to the output, so waveguide gas-tube noise sources are safe to use, though bulky and inconvenient. However, they could be used to calibrate a solid-state noise source. Another problem with all gas tubes is that the VSWR of the noise source changes between the on and off states. If the source VSWR changes the noise figure of an amplifier, as is almost always the case, then the accuracy of the measurement is reduced.

3. Solid-state noise sources. Reverse breadown of a silicon diode PN junction in causes an avalanche of current in the junction which would rise to destructively high levels if not limited by an external resistance. Since current is “electrons in motion,” a large amount of noise is generated. If the current density of the diode is constant, then the average noise output should also be constant; the instantaneous current is still random with a gaussian distribution, so the generated noise is identical to thermal noise at a high temperature. Commercial units use special diodes designed for avalanche operation with very small capacitance for high frequency operation, but it is possible to make a very good noise source using the emitter-base junction of a small microwave transistor.

Typical noise output from an avalanche noise diode is 25 dB or more, so the output must be reduced to a usable level, frequently 15 dB of excess noise to be compatible with gas tubes or 5 dB of excess noise for more modern equipment. If the noise level is reduced by a good RF attenuator of 10 dB or more, then the source VSWR (seen by the receiver) is dominated by the attenuator, since the minimum return loss is twice the attenuation. Thus, the change in VSWR as the noise diode is turned on and off is minuscule. Commercial noise sources consist of a noise diode assembly and a selected coaxial attenuator permanently joined in a metal housing, calibrated as a single unit.

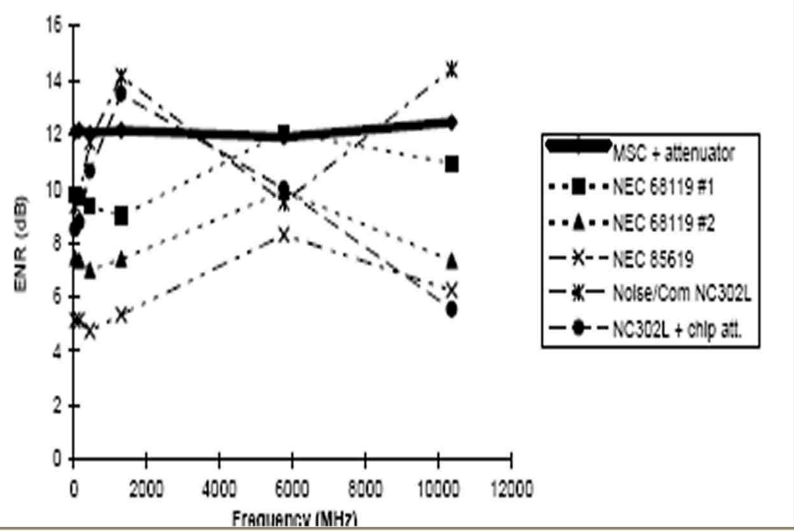
Homebrew Noise Sources

There are three components of a noise source: a noise generator, an attenuator, and the calibration data of ENR at each frequency. The most critical one is the attenuator; it is very important that the noise source present a very low VSWR to the preamp or whatever is being measured, since low-noise amplifiers are sensitive to input impedance, and even more important that the VSWR does not change when the noise source is turned on and off, since a change causes error in the measurement. Because an attenuator provides twice as many dB of isolation as loss (reflections pass through a second time), 10 dB or more of attenuation will reduce any change in VSWR to a very small value. Commercial solid-state noise sources occasionally appear in surplus sources, usually at high prices but occasionally very cheap if no one knows what it is. I have found two of the latter, and one of them works! It produces about 25 dB of excess noise, which is too much to be usable. I went through my box of hamfest attenuators and found one which has excellent VSWR up to 10 GHz and 13 dB of attenuation. Mated with the noise source, the combination produces about 12 dB of excess noise — a very usable amount.

Finally, I calibrated it against a calibrated noise source for all ham bands between 50 MHz and 10 GHz; not exactly NTIS traceable, but pretty good for amateur work.

While noise sources are hard to locate, noise figure meters are frequent finds. If we could come up with some noise sources, all the VHFers who have one gathering dust could be measuring and optimizing their noise figure.

Figure 6. Noise Source ENR



Several articles have described construction of homebrew noise sources, which work well at VHF and UHF, but not as well at 10 GHz. All of them have the diode in a shunt configuration, with one end of the diode grounded. When I disassembled my defective commercial noise source (even the attenuator was bad), I found a bare chip diode in a series configuration ¾ diode current flows into the output attenuator. Obviously I could not repair a chip diode, but I could try the series diode configuration. I found the smallest packaged microwave transistor available, some small chip resistors and capacitors, and soldered them directly on the gold-plated flange of an SMA connector with zero lead length, as shown in the photograph, Figure 4. We've all soldered components directly together in "dead-bug" construction; this is more like "fly-speck" construction. The schematic is shown in Figure 5, and it works at 10 GHz! I built several versions to evaluate reproducibility, and measured them at several ham bands from 30 MHz to 10 GHz, with results shown in Figure 6. All units were measured with the same 14 dB attenuator, so the diode noise generator output is 14 dB higher (Later I found that the MIT Radiation Laboratory had described12 a noise source with a series diode 50 years ago, so we aren't giving away anyone's trade secrets.)

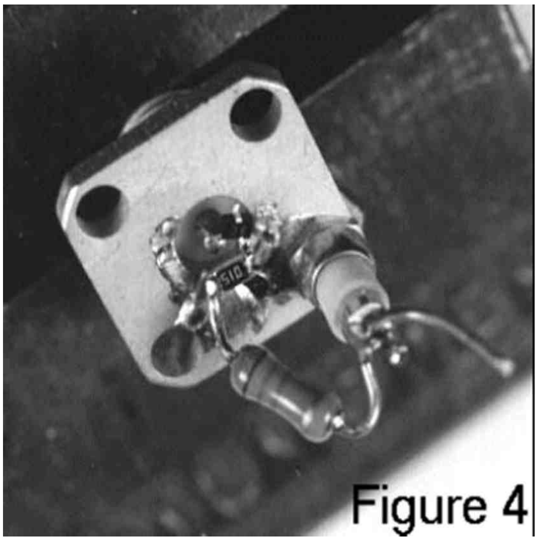
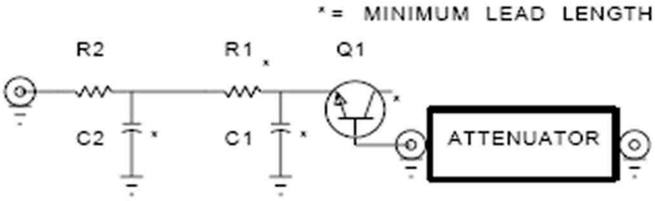


Figure 4



PARTS LIST

ATTENUATOR - MICROWAVE COAXIAL

C1 - CHIP 1.0 pF ATC
C2 - CHIP 1000 pF or more

Q1 - NPN, Tiny Silicon RF like NEC 68119
Alternate: NC302L Noise Diode

R1 - 51 OHM CHIP
R2 - Sets Current, Minimum 1K 1/4 Watt

FIGURE 5. NOISE SOURCE

I then remembered that I had a commercial noise diode, a Noise/Com NC302L, which was used in a noise source described in QST11, with the diode in the shunt configuration. The diode is rated as working to 3 GHz, so, in the amateur tradition, I wanted to see if I could push it higher, using the series configuration. Since I didn't expect to reach 10 GHz, I increased the value of the bypass capacitor, but otherwise, it looks like the units in Figure 5. When I measured this unit, it not only worked at 10 GHz, but had more excess noise output than at lower frequencies, probably due to an unexpected resonance. The performance is shown in Figure 6 along with the other units. Also shown in Figure 6 is the output of my pseudo-commercial noise source; even with the external attenuator, the excess noise output is pretty flat with frequency. Commercial units are typically specified at + or - 0.5 dB flatness. In Figure 6, none of the homebrew ones are that flat, but there is no need for it; as long as we know the excess noise output for a particular ham band, it is perfectly usable for that band. All the above noise sources relied on a coaxial microwave attenuator to control the VSWR of the noise source. Attenuators are fairly frequent hamfest finds, but ones that themselves have good VSWR to 10 GHz are less common, and it's hard to tell how good they are without test equipment. An alternative might be to build an attenuator from small chip resistors. I used my PAD.EXE program13 to review possible resistor values, and found that I could make a 15.3 dB p attenuator using only 140 ohm resistors if the shunt lugs were formed by two resistors in parallel, a good idea to reduce stray inductance. I ordered some "0402" size (truly tiny) chip resistors from DigiKey, more NC302L diodes from Noise/Com, and built the noise source shown in Figure 7 on a bit of Teflon PC board, cutting out the 50 ohm transmission line with an X-Acto knife. The schematic of the complete noise source is shown in Figure 8. The chip resistor attenuator works nearly as well as an expensive coaxial one. The measured VSWR of two noise sources, one with the chip attenuator and the other with a coaxial attenuator, is shown in Figure 9. Curves are shown in both the off and on states, showing how little the VSWR changes. The VSWR of the chip attenuator unit is 1.42 at 10 GHz, slightly over the 1.35 maximum specified for commercial noise sources, but still fine for amateur use.

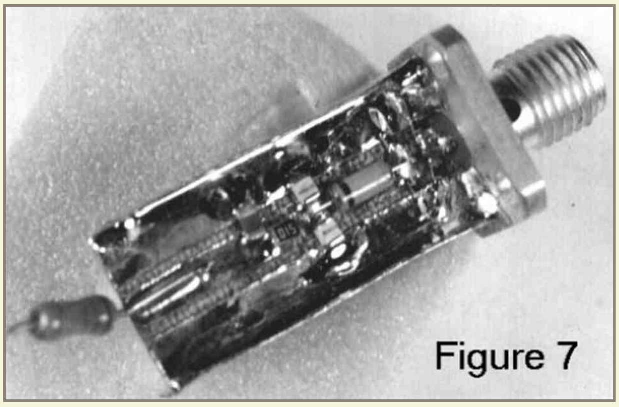
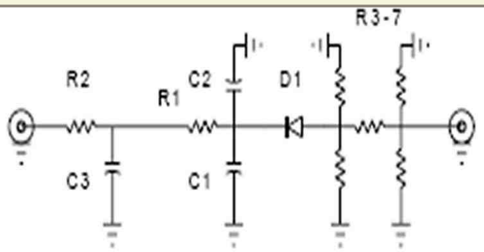


Figure 7



PARTS LIST

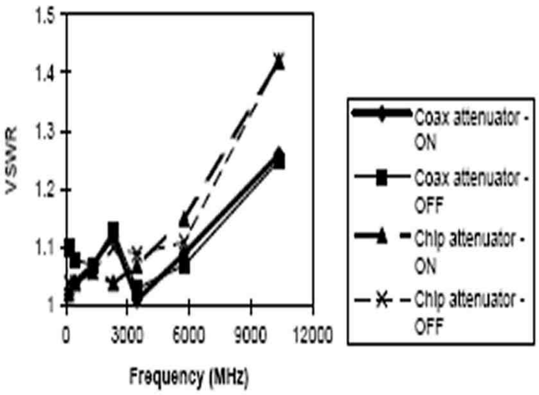
C1 - CHIP 1.0 pF ATC
C2 - CHIP 8.2 pF ATC
C2 - CHIP 1000 pF or more

D1 - NC302L Noise Diode

R1 - 51 OHM CHIP
R2 - Sets Current, Minimum 1K 1/4 Watt
R3-7 - 140 OHM CHIP, 0402 SIZE

NOISE SOURCE WITH CHIP ATTENUATOR
FIGURE 8.

Figure 9. VSWR of Homebrew Noise Sources



Noise Source Alignment

The only alignment requirement for a solid-state noise source is to set the diode current; the current is always set at the highest frequency of interest. A noise figure meter must be set up with converters, etc., for the highest frequency at which the noise source might be used, and set to display the detector output (OFF position on a model 75). Then voltage from a variable DC power supply is applied to the noise diode through the 1K currentlimiting resistor. The detector output should increase as the voltage (diode current) increases, reach a peak, then decrease slightly. The optimum current is the one that produces peak output at the highest frequency (I set mine at 10 GHz). Then additional resistance must be added in series with the current-limiting resistor so that the peak output occurs with 28 volts applied, so that the noise source may be driven by the noise figure meter. Once the proper resistor is determined and added, the DC end of the noise source is connected to the diode output of the noise figure meter, and the meter function set to ON. This should produce the same detector output as the power supply. Then the meter function is set to AUTO, and the meter should produce some noise figure indication, but not a calibrated one yet. However, it is good enough to tune up preamps ¾ a lower noise figure is always better, even if you don't know how low it is.

Noise Source Calibration

Much of the high price of commercial noise sources pays for the NTIS-traceable calibration. Building a noise source only solves part of the problem ¾ now we need to calibrate it. The basic calibration technique is to measure something with a known noise figure using the new noise source, then calculate what ENR would produce the indicated noise figure. Fortunately, the calculation is a simple one involving only addition and subtraction; no fancy computer program required. Simply subtract the indicated noise figure, $NF_{indicated}$, from the known noise figure, NF_{actual}, and add the difference to the ENR for which the meter was calibrated, ENR_{cal} :
$ENR\ (noise\ source) = ENR_{cal} + (NF_{actual} - NF_{indicated})$

This procedure must be repeated at each frequency of interest; at least once for each ham band should be fine for amateur use. The known noise figure is best found by making the measurement with a calibrated noise source, then substituting the new noise source so there is little opportunity for anything to change. Next best would be a sky noise measurement on a preamp. Least accurate would be to measure a preamp at a VHF conference or other remote location, then bring it home and measure it, hoping that nothing rattled loose on the way. If you can't borrow a calibrated noise source, it would be better to take your noise source elsewhere and calibrate it. Perhaps we could measure noise sources as well as preamps at some of these events.

Using the noise source

Now that the ENR of the noise source has been calibrated, the noise figure calibration must be adjusted to match. However, the model 75 in the CAL position has only two dB of adjustment range marked on the meter scale. Older instruments have no adjustment at all. However, we can just turn around the equation we used to calculate the ENR and calculate the NF instead:
$NF_{actual} = NF_{indicated} + (ENR_{(noise\ source)} - ENR_{cal})$

There is a short cut. My noise source has an ENR around 12 dB, so I set the "CAL ADJ" in the CAL position as if the ENR were exactly 3 dB higher, then subtract 3 dB from the reading. Even easier, the meter has a +3dB position on the "ADD TO NOISE FIGURE" switch. Using that position, I can read the meter starting at 0 dB. Any ENR difference from 15 dB that matches one of the meter scales would also work ¾ rather than an involved explanation, I'd urge you to do the noise figure calculations, then try the switch positions and see what works best for quick readout.

Reminder: noise figure meters have a very slow time constant, as long as 10 seconds for some of the older models, to smooth out the random nature of noise. Tune slowly!
Don’t despair if the ENR of your noise source is much less than 15 dB. The optimum1 ENR is about 1.5 dB higher than the noise figure being measured. The fact that today’s solid state noise noise sources have an ENR around 5 dB rather than the 15 dB of 20 years ago shows how much receivers have improved.

Conclusion

The value of noise figure measurement capability is to help us all to hear better. A good noise source is an essential part of this capability. Accurate calibration is not necessary, but helps us to know whether our receivers are as good as they could be.

Best 73's N1BWT.

Notes:
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5. R. Bertelsmeier, DJ9BV, & H. Fischer, DF7VX, “Construction of a Precision Noise Figure Measuring System,” DUBUS Technik 3, DUBUS, 1992, pp. 106-144.
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9. K. Britain, WA5VJB, “10 GHz Noise Source,” Microwave Update ‘87, ARRL, 1987, p 63.
10. P. Wade, N1BWT, & S. Horsefield, NR1E, “Homebrew Solid State Noise Sources,” Proceedings of the 1992 (18th) Eastern VHF/UHF Conference, ARRL, 1992.
11. W.E. Sabin, W0IYH, “A Calibrated Noise Source for Amateur Radio,” QST, May 1994, pp. 37-40.
12. G.E. Valley, Jr., & H. Wallman, Vacuum Tube Amplifiers, MIT Radiation Laboratory Series, McGraw-Hill, 1948.
13. P. Wade, N1BWT, “Building VHF Power Attenuators,” QEX, April 1994, pp. 28-29. PAD.EXE program may be downloaded from http://www.arrl.org/qexfiles

DX NEWS
From the Web

C91, MOZAMBIQUE

Mike, ZS6TAF, who works in Maputo from time to time, operate mobile using the callsign C91BA. He uses Yaesu 857D and Watson Multiranger mobile antenna for 80/40/20/15/10/6 meters. He was heard this past week on 7083 kHz at 1539z. QSL via his home callsign.

CCF/OHDXF CONTEST & DX CONFERENCE

Dates for the CCF/OHDXF Contest and DX conference have been announced by the Contest Club of Finland(CCF) and OH DX Foundation (OHDXF). It will be held between January 22-24th (2010). Look for more details to become available on the following Web page at:
http://contestclubfinland.com/CCF

CE9, SOUTH SHETLAND ISLANDS (Update)

A team of operators will be operating from Arturo Prat-Greenwich Island-South Shetland archipelago (IOTA AN-010, WW Loc. GC07FQ), between January 10-24th. Team members mentioned are: Luis/XQ5CIE, Carlos/CE6UFF, Didier/F6DXE and Dagoberto/CE5COX. Their callsign will be XR9JA. Activity will be on 160-6 meters using CW, SSB, PSK31 and the AO-51 Satellite. QSL via CE5JA. For more information, go to:
http://www.ce5ja.cl

FT5W, CROZET ISLAND

Florentin, F4DYW, currently active as FT5WO, is expected to be on the air until November 15th, but will leave the island on November 23rd. He is usually on 20 or 17 meters during Saturdays and Sundays between 0600-1300z usually between 14260-14280 kHz. QSL via F4DYW.

MARCONI NOBEL 100 AWARD

To celebrate the 100th anniversary of Marconi receiving the Nobel Prize, listen for and work 10 different special event "SI" stations between November 9th and December 10th. The following special anniversary callsigns will be on the air: SI0GM, SI1GM, SI2GM, SI3GM, SI4GM, SI5GM, SI6GM and SI7GM. Other SM stations may be using the special prefix SI, but only the above stations count. Each anniversary station counts once per band. No endorsements. The fee is 50 SEK, 5 Euro or 5 USDs. Apply with log entry to SSA Awards Manager, Bengt Hogkvist, Ostbygatan 24 C, SE-531 37 Lidkoping, Sweden

P4, ARUBA (SA-036)

John, W2GD, will be active as P40W during the CQ WW DX CW Contest (November 28-29th) as a Single-Op/All-Band/Low-Power or QRP entry with limited antennas. QSL via N2MM. Logs will be loaded on LoTW upon his return to USA.

P4, ARUBA (SA-036)

Andy, AE6Y, will be active as P49Y during the CQ WW DX CW Contest (November 28-29th) as a Single-Op/All-Band/High (or Low)-Power entry. QSL via AE6Y.

T30, WESTERN KIRIBATI

Operators David/N1EMC and Mike/N1IW will be active as T30KI and T30IW, respectively, between November 10-16th. Activity will be on 60-6 meters as conditions permit using SSB/CW. QSL via N1EMC.

T6, AFGHANISTAN

David, CT1DRB, will be active as T6AG from here the next 6 months as of October 21st. Activity will only be CW. QSL via EA3GHZ direct.

TZ, MALI

Mac, JA8SLU, will once again return to Mali and be active as TZ6JA between November 2-23rd. Activity will be SSB only. QSL direct only to: Mac Obara, P.O. Box 59, Tama, Tokyo, 206-8691 JAPAN.

V3, BELIZE

Wil, AA4NC, will be active as V31RR between February 17-23rd. Activity will be on the HF bands including 30/17/12m using CW, SSB and RTTY. His activity will also include the ARRL DX CW Contest (February 20-21st) as a Single-Op entry. QSL via his home callsign or LoTW.

XV, VIETNAM (Update/IOTA Op)

Operators Manfred/DK1BT, Wolf/DL4WK, Andy/ DL5CW, Sigi/DL7DF and Frank/DL7UFR will be active as XV4D from Phu Quoc Island (AS-128) between November 4-17th. Activity will be on 160-10 meters using CW,SSB,RTTY,PSK and SSTV. QSL via DL7DF, direct or by the Bureau.

YN, NICARAGUA

Eric, K9GY, will once again be active as YN2GY from Octavio's, YN2N, QTH in Grenada, during the 2010 ARRL DX CW Contest (February 20-21st) as a Single-Op/All-Band/Low-Power entry. He will be there between February 18-22nd. Outside of the contest, look for CW activity on 30/17/12 meters. QSL via LoTW or to his home callsign, direct or by the bureau.

CONTESTS OF THE MONTH

Date	UTC	Mode	Contest
06-07	1200-1200	All	Ukrainian DX Contest
06-08	2100-0300	CW	ARRL Sweepstakes
06-08	2100-0300	CW	Collegiate Championship
13-14	0700-1300	SSB	Japan International DX Contest
13-14	0000-2400	RTTY	Worked All Europe DX Contest
13-14	1200-1200	CW	OK/OM DX Contest
20-21	1400-0800	CW	IARU 160m Contest
20-22	2100-0300	SSB	ARRL Sweepstakes
20-22	2100-0300	SSB	Collegiate Championship
20-21	2100-0100	CW	RSGB 1.8MHz Contest
20-21	1200-1200	CW	LZ DX Contest
27-28	0000-2400	CW	CQ WW DX Contest

SM3CVM Presents :

THE DXCALENDAR

November 2009

- 1/11 ANTARCTICA; VK0BP AN-016

is currently working at Antarctic Davis Base Station, Gridsquare MC81xk. His activity is limited due to his workload, but he is expected to be on all HF bands. He seems to like 20 meters between 1500-1800z. Operations have been on SSB and PSK31, but he plans to operate on other modes later on during his stay at the Davis Station. QSL via VK2CA. PLEASE NOTE: There is also a possibility of activating other field huts in the area, and he will sign as VK0BP/P. Look for more details on his Web page at http://www.vk0bp.org/

- 1/11 - 7/11 ARGENTINA; LU/PY2TJ SA-008

from Isla Tierra Del Fuego (WLOTA L2448). Activity will be on all HF bands. QSL via PT2OP, direct is preferred or by the Bureau.

- 2/11 - 9/11 UNITED STATES OF AMEICA: KG8DP NA-062

from Grassey Key. Operations will be stationary at Grassey Key and mobile as he travels to Key West and all points on the ocean. He will use the callsign KG8DP, as well as his club callsign NA8KD. This will be a week trip. QSL both KG8DP/NA8KD via info on QRZ.com (w/SASE). Mark will be using an IC-7000, 1.2 kw amp mobile and GLA-1000B portable amp. Antennas were not mentioned.

- 2/11 - 23/11 MALI; TZ6JA

by JA8SLU. Activity will be SSB only. QSL direct only to: Mac Obara, P.O. Box 59, Tama, Tokyo, 206-8691 JAPAN.

- 3/11 - 15/11 MONTSERRAT; VP2MUM, VP2MXO and VP2MNK

by DL2RUM (VP2MUM), DM2XO (VP2MXO) and DJ8NK (VP2MNK). Activity will be on 160-10 meters using CW, SSB and RTTY. QSL via their home callsigns per the QRZ.com address or by the Bureau.

- 4/11 - 11/11 VIRGIN IS; KP2/homecall

from St. Croix by N3XF, K1ZE and W1EQ. Activity will be on 160-10 meters using CW, SSB and possibly RTTY. Look for KP2M during the ARRL CW Sweepstakes Contest (November 7-8th). QSL KP2M via info on QRZ.com. All other QSLs via home callsign and LoTW.

- 4/11 - 17/11 VIET NAM; XV4D AS-128

from the Island of Phu Quoc by DL7DF, who will lead a crew of operators. Their callsign has not been announced yet, but it is expected to be the XV prefix. Activity will be on 160-10 meters using CW and SSB with several stations on the air. One station will be exclusively dedicated to RTTY, PSK31 and SSTV. Their equipment consists of 3 transceivers (two K2 and one IC7000) with three kW linears into two 18m lowband verticals, a 2 element vertical for 40m, a 2 element vertical for 30m, two Spiderbeam for 20/17/15/12/10m, and some beverage antennas. Operatorsmentioned are: DK1BT, DL4WK, DL5CW, DL7DF and DL7UFR. Pilot station for this DXpedition is Bernd, DF3CB. QSL via DL7DF, by the German QSL Bureau or direct to: Sigi Presch, Wilhelmsmuehlenweg 123, D-12621 Berlin, Germany. For complete details, visit http://www.dl7df.com/xv/index.html

- 4/11 - 18/11 BERMUDA; VP9KF NA-005

from Baileys Bay by W4/VP9KF (G4BKI). Activity will only be CW on all bands. QSL via W4/VP9KF: Paul Evans, 6809 River Road, Tampa, FL 33615. Visit his Web page at http://vp9kf.com/
Please, DO NOT send to the VP9 bureau.

- 6/11 - 8/11 EAST MALAYSIA; 9M6DXX/P and 9M6XRO/P OC-133

from Pulau Labuan Island by 9M6DXX and 9M6DXX. The operations will be as follows: 9M6DXX/P - On 80-10 meters; SSB only. 9M6XRO/P - On 160-10 meters; CW and RTTY. Each stations will be using amplifiers to a multi-band vertical and a 160m inverted-L, both mounted very close to the ocean. Operators hope it will be possible to operate on 160m CW at the same time as SSB on the other bands. QSL both 9M6DXX/P and 9M6XRO/P via M0URX, either direct, by the bureau or LoTW.

- 6/11 - 9/11 VENEZUELA; YW5F SA-058

from Farallon Centinela Island by members of the Grupo DX Caracas. Activity is to celebrate the 20th anniversary of the Caracas DX Group. Operations will be on 80-2 meters using CW, SSB and FM. QSL via DM4TI.

- 7/11 NIUE; ZK2DL OC-040

by DL2FAG. He plans to operate mainly RTTY, PSK and SSB on 10-80 metres, using a Triple leg multiband and dipoles. After Niue and before Samoa he will be visiting New Zealand's South Island (OC-134) and be active sporadically as ZL4/DL2FAG. QSL via home call. Log searches will be available at www.qsl.net/dl2fag/

- 9/11 PAPUA NEW GUINEA; P2 OC-102, OC-231 and OC-205

G3KHZ (P29NI) has announced a new IOTA DXpedition from the Tanga Islands (OC-102), the Green Islands (OC-231) and the Woodlark Group (OC-205). He and other four operators, CT1AGF, G3USR, G4EDG and SM6CVX) will operate CW, SSB and RTTY on 160-15 metres, using new single band vertical dipoles for 30-15m and a ground plane for 40m.

- 11/11 NEW CALEDONIA; FK/F5NHJ OC-032 or OC-033

from either Grande Terre (OC-032) and Lifou or Mare (OC-033).He plans to focus on 30 metres digital modes. QSL via F5NHJ.

- 10/11 - 16/11 W. KIRIBATI; T3ØKI and T3ØIW

by N1EMC and N1IW. Activity will be on 60-6 meters as conditions permit using CW/SSB. QSL via N1EMC.

-11/11 - 13/11 PAPUA NEW GUINEA; P29VCX OC-117

from Hastings Island by SM6CVX. QSL via home call. The web page for the expedition is at http://www.425dxn.org/dxped/p29_2009/

- 11/11 - 16/11 BRAZIL; PW6C SA-062

from Coroa Vermelha Island by PP1CZ, PY0FF, PY7RP, PY7XC, PY7ZY and K9AJ. Activity will be on 80-10 meters using CW and SSB. QSL via K9AJ. Web site at http://www.pw6c.com/

- 11/11 - 18/11 SAMOA; 5W OC-097

from the Island of Upolu by IK1PMR, K2LEO/PA3LEO, PA0BWL, AA4NN, OE2SNL, DJ5IW and OZ1IKY are planning a DXpedition to three semi-rare entities (and possibly some other operations) in the Pacific between November 11th and December 13th. Callsigns have not been announced yet. Focus will be on the lower bands, but activity is planned for 160-10 meters using CW, SSB and the Digital modes. The team will use three Elecraft K2/100 with DSP and amps. For more information and updates, watch: http://www.ik1pmr.com/plans/a3/index.php?s=intro/

- 13/11 - 14/11 PAPUA NEW GUINEA; P29VCX OC-116

from Normanby Island by SM6CVX. QSL via home call. The web page for the expedition is at http://www.425dxn.org/dxped/p29_2009/

- 13/11 - 23/11 COMOROS; D68F AF-007

by F6AML. He will operate CW (1828, 3520, 7020, 10115, 14020, 18071, 21020, 24951 and 28020 kHz) and SSB (3775, 7075, 14265, 18140, 21265, 24960 and 28480 kHz), with a focus on the low bands. QSL via F6AML, direct or bureau.

- 13/11 - 27/11 GHANA; 9G5TT and 9G5XX AF-084

Their activity will also include an IOTA trip to Abokwa Island (AF-084). Operations on the mainland will use the callsign 9G5TT, while operations on AF-084 will use 9G5XX. Activity will be on all HF bands (160-10 meters) and modes. On AF-84 there will be one station on 20 meters only. The time of the operation on the island will be on a day to day basis and will depend on the sea condition and weather forecast. QSL via I2YSB, direct only. More information can be found at http://www.i2ysb.com/

- 13/11 REPUBLIC OF KOREA; HL9QST

by KE7WRJ. This is a rare prefix only assigned to U.S. Service members assigned to Korea. His tentative schedule is to operate from 4 different locations in South Korea as follows: September 10-12th: Seoul, September 14-24th: Camp Casey, September 25th-October 18th: Camp Humphreys, October 19-29th: Camp Carroll October 30th-November 13th: Seoul. Activity will be on 40-10 meters, depending on the propagation, using CW and SSB. Operations will be at least 8 hours a day during the week and longer over the weekends. Look for him to be in both the Extra and General portions of the bands. His equipment will consist of a 5000A by Flex Radio, a "3 element Yagi in a Bag" from Super Antennas. QSL via KE7WRJ, direct or LoTW.

- 14/11 - 21/11 FALKLAND IS.; VP8BUG (digital) and VP8BUH (SSB)

by members of the Uruguay DX Group's globetrotters. Their activity will focus on the lower bands, Digital modes and the 30/17/12 meter bands. Operators mentioned include: Gus/CX2AM, Gus/CX3CE, Bert/CX3AN, Mario/CX4CR and Luis/CX4AAJ. Probably QSL Manager is EB7AEY. More details are forthcoming.

15/11 - 16/11 PAPUA NEW GUINEA; P29VCX OC-240

from Loloata Island by SM6CVX. QSL via home call. The web page for the expedition is at http://www.425dxn.org/dxped/p29_2009/

15/11 - 3/12 TURKS & CAICOS IS.; VP5/homecall NA-002

from Providenciales by W7VV, VE7XF and possibly some other operators.Activity will include the CQWW DX CW Contest (November 28-29th) as a Multi-? entry and possibly a special callsign (TBA). QSL route TBA. Operators will be active before and after the contest on all bands (160-6 meters) and modes signing VP5/homecall. QSL via their home callsigns.

15/11 - 20/2 2010 ANTARCTICA; KC4USV AN-011

from McMurdo Station by K7MT. He will be on the HF bands on 14243 kHz, Sundays at 0000z. He will also be active on PSK-31 (on 14070 kHz) and CW (14043 kHz) if time permits. He has also mentioned that he will take an Arrow II antenna and his Kenwood TH-7 to work the Amateur Satellites into VK and ZL land. He also has plans to be on APRS VHF/HF with a Kam Plus, so you might just see him driving around on the Ross Ice Sea as K7MT-7 on APRS. QSL via K1IED. Visit his home page for some interesting pictures at http://www.mt.net/~k7mt/

- 15/11 CROZET I; FT5WO

by F4DYW. He is usually on 20 or 17 meters during Saturdays and Sundays between 0600-1300z usually between 14260-14280 kHz. QSL via F4DYW.

- ca 16/11 LEBANON; OD/W5YFN

has received approval from the local authorities while in Lebanon, for one year starting on 16 November.

- 17/11 AUSTRALIA; VK7ACG OC-006

from Tasmania by GØWFH. He will operate SSB on 160-10 metres, with a focus on the low bands. QSL via home call, direct or bureau.

- 17/11 - 30/11 SAMOA; 5WØKH OC-097

from Upolu Island by DL2FAG. He plans to operate mainly RTTY, PSK and SSB on 10-80 metres, using a Triple leg multiband and dipoles. QSL via home call. Log searches will be available at www.qsl.net/dl2fag/

- 17/11 - 15/12 MADAGASCAR; 5R8IC AF-090

from Saint Marie Island by F6ICX. Activity will be on 80-10 meters. QSL via his home callsign.

- 18/11 - 24/11 CANADA; VY2/W7ASF NA-029

from Prince Edward Island. Activity will include an entry in the ARRL Sweepstakes Phone ontest (November 21-23rd). QSL via his home callsign, direct or by the Bureau.

- 19/11 - 23/11 NEW CALEDONIA; FK/JA1NLX OC-033

from Ouvea Island along with his XYL. Activity will be on all HF bands (80-10 meters) using CW and RTTY with a IC-706MK2 100 watt transceiver and vertical antenna. QSL via the LoTW or by his home callsign, direct or by the Bureau. For more details and log after his operation, visit the following Web page at http://www.ne.jp/asahi/ja1nlx/ham/fk_2009.html

- 19/11 - 9/12 TONGA; A3 OC-049

from the Island of Tongatapu by IK1PMR, K2LEO/PA3LEO, PA0BWL, AA4NN, OE2SNL, DJ5IW and OZ1IKY are planning a DXpedition to three semi-rare entities (and possibly some other operations) in the Pacific between November 11th and December 13th. Callsigns have not been announced yet. Focus will be on the lower bands, but activity is planned for 160-10 meters using CW, SSB and the Digital modes. The team will use three Elecraft K2/100 with DSP and amps. For more information and updates, watch: http://www.ik1pmr.com/plans/a3/index.php?s=intro/

- 20/11 - 26/11 CANADA; VY1RST

from near Beaver Creek, Yukon by KL7JR, WL7MY and KL7BO. Emphasis will be on 160/80 meters SSB (using a 160m Inverted L) with a 2nd station on for 40-10 meters (vertical) SSB and PSK-31. QSL Manager is KL7JR. E-mail skeds are welcome at John.ReisenauerJr@alyeska-pipeline.com

- 20/11 - 10/2 2010 CANARY ISLANDS; EA8/homecall AF-004

from Tijoco Bajo, Tenerife Island by ON5JV and ON6AK. Activity will be on 40-10 meters during their evenings. They plan to use 100w into a vertical 14AVQ. QSL via their home calls, bureau is preferred.

21/11 - 5/12 CHRISTMAS I.; VK9XX OC-002

by DM5TI, DL2JRM and DL2RMC. Activity will be on 160-10 meters using CW, SSB and the Digital modes. They plan to use verticals and beams, and also be an entry in the CQWW DX CW Contest as VK9XW (November 28-29th). QSL via DL1RTL, by the Bureau or direct. For complete details, visit the VK9XX Web site at http://www.dl2rmc.com/tom/VK9X2009/

- 22/11 - 2/12 BARBADOS; 8P9SS

by ND3F. Activity will probably be on all bands, but he will also be in the CQWW DX CW Contest (November 28-29th) as a Single-Op/All-Band/Low-Power entry. QSL via LoTW or direct to ND3F.

- 23/11 - 1/12 BOTSWANA; A25NW

by K9NW. Activity will include the CQWW DX CW Contest (November 28-29th). QSL via his home callsign (QRZ.com).

- 23/11 - 2/12 TUNISIA; 3V3S

by a German team from the "Radio Club Station of Tunisian Scouts" (3V8SS) in Sousse. Operators mentioned are DJ7IK, DJ8NK, DJ9CB, DL9USA and DF1LON. The team will set up, and use a spiderbeam and verticals antennas. All antennas will be donated to the 3V8SS station. Look for them to also participate in the CQWW DX CW Contest (November 28-29th) as a Multi-Single/Low-Power entry. QSL via DL9USA. A Web page will be active soon at http://www.3V3S.tk/

- 23/11 - 6/12 CHESTERFIELD IS.; TX3A

by AA7JV and HA7RY. The TX3A license is valid for 14 days only between the dates listed above. Because these dates could change (due to weather and other things), they "may" have to operate as FK/AA7JV or FK/HA7RY before and after this period. Their priorities will be 160, 80 and 40 meters, in that order. They will be active on the higher bands the rest of the time. The operators will use the same antenna that they used on Mellish Reef, but they have developed a new RX antenna, which they hope will improve their RX capabilities. QSL via HA7RY. Mailing direct -Please include 2 USDs with every direct QSL request for up to three cards per envelope. If you send International Reply Coupons (IRC), please make sure that it is not expired or is not about to expire. DO NOT SEND IRCs that are valid only until end of 2009! Cards are likely to be posted only early 2010. Mailing address: Tamas Pekarik, Alagi ut 15, H-2151 Fot, HUNGARY. * The preferred way is using the "Online QSL Request Service" (OQRS) on their Web site which they will launch once the DXpedition is over. You can use that form to request your direct QSL and cover the costs of sending the QSL card to you direct by using PayPal. They request a minimum of 5 USDs or 4 EUROs for this service. * Bureau: They will launch an "Online QSL Request Service" (OQRS) on their Web site as soon as the expedition is over. If you want to receive your QSL via the bureau, please use that form to request the card. They will check your QSOs against the log and send your card to you via the bureau. This method will allow them faster processing, helps them protect the environment and you will receive your TX3A card faster. If you request your bureau card online, please do NOT request a direct card and do NOT send us your QSL card. More detailed information is available on their new Web page at http://www.TX3A.com/

- 24/11 - 1/12 BONAIRE, CURACAO; PJ4/homecall SA-006

from Bonaire by K4BAI and W4OC. Also look for them to be active as PJ4A during the CQ World Wide DX CW Contest (November 28-29th) as a Multi-Op entry. QSL all callsigns via K4BAI.

- 24/11 - 6/12 BELIZE; V31PT NA-073

from Ambergris Cay by K8PT. No other details were provided. However, in past operations, activity usually is 160-6 meters using CW, SSB, RTTY and some PSK-31. QSL via his home callsign.

- 25/11 - 27/11 MARTINIQUE; FM/JE1JKL/p

Activity will also include the CQWW DX CW Contest, signing as TO5T, and as a Single-Op/All-Band/High-Power entry. QSL via JE1JKL.

- 26/11 - 1/12 ANTIGUA & BARBUDA; V26K

by AA3B. His activity includes the CQWW CW Contest (November 29-30th) as a Single-Op/All-Band/Low-Power entry. This will be an all CW operation on the contest HF bands only. QSL via AA3B.

A Hundred Year of Amateur Radio

By G3NGD

"Part Two"

the next fifty years.

The war against Hitlers Germany ended, officially at one minute past midnight on Tuesday, May 8, 1945, but the struggle against Japan continued until August 14, 1945. During the weeks that followed, conditions near to chaos existed on the amateur bands, mainly because certain allied military commanders in widely different parts of the world had given permission for pre-war licence holders to operate service transmitting equipment. This was a direct contravention to the law, but was done to boost morale.

In March 1946, questions were asked in Parliament as to the sale of Government surplus radio equipment to amateurs. Already much use of the surplus apparatus had been purchased in large quantities at ridiculously low prices by dealers who had offered it for sale to show high profits. Three months later, the Admiralty announced that "electronic scrap" would become available to radio amateurs from Naval depots at a price of fifty shillings a hundredweight. (£2.50) How many complete receivers, transmitters and items of expensive measuring equipment was sold in brand new condition as "electronic scrap", no one can even hazard a guess, but fair minded amateurs regretted that due to abuse, this scheme was abandoned within six months.

Many radio operators from the war became interested in amateur radio and applied for licences. People tuning the short-waves on domestic receivers discovered the world of amateur radio and became fascinated. By 1947, more than five and a half thousand transmitting licences were in force compared with three thousand eight hundred a year earlier; and so the number grew. After the war, the "Trans-Atlantic tests" and the "National Field Day" events were revived, and are still held annually to this day. These events are organized by the Radio Society of Great Britain (formerly the London Wireless Club).

In 1951, the RSGB offered to establish a communications network to meet any national disaster on land, at sea, or in the air, but the Post Office declined the offer.

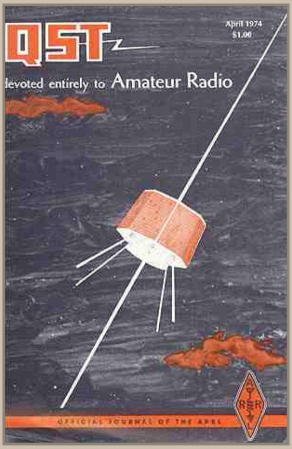
During the last few hours of January 1953, a flood disaster of immense magnitude struck the East Coast of England; Post Office telephones, Government wireless stations and utility services were out of action for days. Radio Amateurs in these stricken areas, ignoring the terms of their licence placed their experience at the disposal of the authorities.

After long talks with the Post Office, the RSGB set up the Radio Amateurs Emergency Network (RAYNET) , which today works in collaboration with the British Red Cross Society, the St. Johns Ambulance Brigade and the Police.

The Grebe Auto Radiophone
Photo of A. H. Grebe in a Buick
outfitted with a radio transmitter. August, 1919.
www.greberadio.com

Early in 1954, the Post Office introduced a new Amateur Mobile and Television licence. The mobile age had arrived; amateurs started to build mobile equipment and demonstrate it at mobile rallies. The first mobile rally was held at Binsey near Oxford, on October 9th, 1955, and was attended by over seventy-five radio amateurs and friends.

For several hours, mobile operators demonstrated their equipment and discussed the fine points of this absorbing new development in amateur radio. Many amateurs have become interested in space techniques, and this has led to the creation of the amateur satellite service in 1971. The OSCAR (orbiting satellite carrying amateur radio) satellites are now an accepted and exciting part of the amateur scene.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ARRL

The 'seventies

Radical changes occurred during the 'seventies. The shelves of "electronic scrap" at the local amateur radio emporium were replaced by expensive Japanese radio equipment. The new generation of radio amateur has become a "black box operator" (not interested in how it works). The Post Office introduced a VHF (Very high frequency) only licence, which an applicant can obtain without passing a Morse test. This licence restricts the holder to VHF and UHF working only, and deprives him/her of the thrill and excitement in communicating with people all over the world using the short-wave bands. It is not until he/she has become proficient in the Morse code that he/she will be granted a FULL LICENCE.

On 14th September 1972, the first UK repeater was activated with the callsign GB3PI and was located in Cambridge at the Pye Telecom site. Soon after, other repeaters were set up and they operated on 2m and 70cm bands.

In 1977, the separate mobile and amateur television licences were abolished, and these modes of operation were included in the main licence (One Fee).

At the World Administrative Radio Conference in 1979, three new bands were gained: 10·100 - 10·150MHz, 18·068 - 18·168MHz, and 24·890 - 24·990MHz.

Many "old timers" like myself try to hold onto the past. This has been shown by the many people still building Amplitude Modulated (AM) Transmitters and Receivers, and participating in contacts on a regular basis on Top Band (1963KHz). Listen every Sunday morning at 1100Hrs - there is a lot of activity in the Greater Manchester Area. - G3NGD operates using his HOME BREW Chatterbox Transmitter & Receiver.

The 'eighties

In the early 'eighties, the old 405-line vhf television services finished broadcasting in the uk. This used to be an Amateur Radio band until the BBC acquired it for television after the second world war. Radio Amateurs requested the band be returned, and this was granted in 1983 (The band is 50 - 52MHz.).

In the 1980's, Information Technology and the Computer age arrived. Radio Amateur enthusiasts like myself started to purchase or build the Sinclair ZX81 micro-computer. This escalated to the introduction of the INTERNET.

Unfortunately, the Internet has led to a reduction in recruitment of Radio Amateurs - it is so easy to contact people world-wide using the 'Internet'. This is all well and good but one doesn't get the thrill of that exotic contact especially when using home constructed equipment. (Prior to the year 2006, the licence fee was only £15 per year - now it is FREE of charge!). On the positive side however,

Radio Amateurs put the Computer to excellent use in:

Slow Scan Television, RTTY, Packet Radio, Using the PC for Logging, Mail Box, Database, Satellite Tracking, Sending CW for Moon bounce and Meteor Scattering, Chordial Hop Predictions, Distance & Bearing for Beam Settings, Design Calculations, Echolink Communications, and many other applications...

Space Operation:

SPACELAB 2
SPACELAB 2
W0ORE
FROM THE SPACE SHUTTLE "CHALLENGER"
STS MISSION 51-F/SPACELAB 2

With the advent of the American Space Shuttle, space flight became a comparatively normal event and Amateur Radio was allowed on a number of missions. The first amateur operation from space was W0ORE using a Motorola hand-held.

Further missions took radio amateurs into space, and in 1985 an all-German crew operated with the callsign DP0SL. For Britain there has been operation from space, when the first British cosmonaut, Helen Sharman, went up with a Russian MIR space mission in May 1991 using the callsign GB1MIR.

The 'nineties

The number of people entering Amateur Radio began to fall, and so in 1991, a new Licence - 'The Novice Licence' was introduced. This was really a way of encouraging young people to participate in the hobby without having to take a full examination. To qualify for the licence, applicants needed only to take part in a course organized by the Radio Society of Great Britain and sit a simple examination.
Although many people took up the hobby via this route, the number of Licensees continued to fall, and so in 1999, the A/B Licence was introduced. For this licence, in addition to a pass being required in the RAE, one has only to take a Morse test at five wpm.
(Note: pressure was placed on the authorities to abolish the Morse code examination after the year 2000. This has now taken place and has made it very easy to obtain a licence). Many people today are in for the easy option. They want qualifications to be given away with very little effort being made by the individual. There were many Radio Amateurs that opposed this move, as Morse Code has many advantages:
using Morse with 'Q' codes for example, provides an "International language"
Morse Code gets through the interference
Morse Transmitters are simple for the novice to build (no modulator to build)
Morse Code Transmitters have a narrow bandwidth, occupy less radio spectrum and unlikely to cause EMC problems. In the 'old days', Radio Amateurs were very proud to be associated with the hobby, but today, the general public think that Amateur Radio is like C.B. radio. This is far from true, and should remain that way.
This has been shown in the year 2006, when a move to de-regulate Amateur Radio was defeated. Radio Amateurs still have to take an examination to obtain a licence.
However, if the Radio Amateur has an e-mail address, the licence is issued 'free of charge' for life. Unfortunately, people who don't have computer access have to pay a charge of £20.00 to Ofcom. (There are no age concessions). Radio Amateurs will
have to confirm their details every five years by e-mail. No doubt, Radio Amateurs will have to download the latest edition of the Licence Conditions from the Ofcom website, on an annual basis.
Throughout the world at the present time (Year 2000) there are just short of three million radio amateurs with their own radio stations communicating regularly with other enthusiasts in their own country and more distant countries. Japan heads the list with 1296000 licences, followed by the USA with 679864. The United Kingdom has 57124 not including club stations. To these figures, however, one must add the teens of thousands of amateurs who merely "listen" to amateur radio broadcasts. If amateur radio is to survive, we need to encourage more people, particularly youngsters into the hobby. With this in mind, there is a 'proposed future structure' of Amateur Radio Licensing currently in discussion, as follows: Full Class A, Full Class A/B and Full Class B becoming a new class 'ADVANCED'. The Novice Class A becoming an 'Intermediate' and the Novice Class B becoming an 'Intermediate - Foundation' Licence.
As the future unfolds, communications equipment will become more sophisticated; already with the advent of the "silicon chip", the conventional amateur radio station is becoming obsolete. Much use has already been made of computers as detailed above. Amateur Radio has already been used to make contact with astronauts in space. The future years will unequivocally show a considerable growth in the use of amateur artificial satellites for long distance VHF communication. Using the latest techniques and improvements in amateur radio equipment and satellites themselves, that which is now a very specialized field will become a major amateur activity. Trans-Atlantic contacts will become as simple as talking on the telephone to a friend across town.

73's ! G3NGD

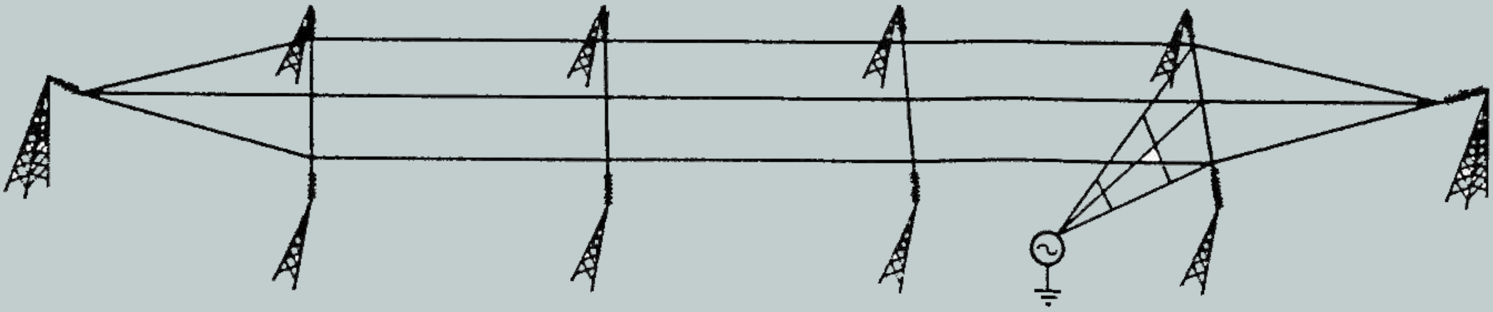
MF and HF Receiving Antenna

By VE7BPO

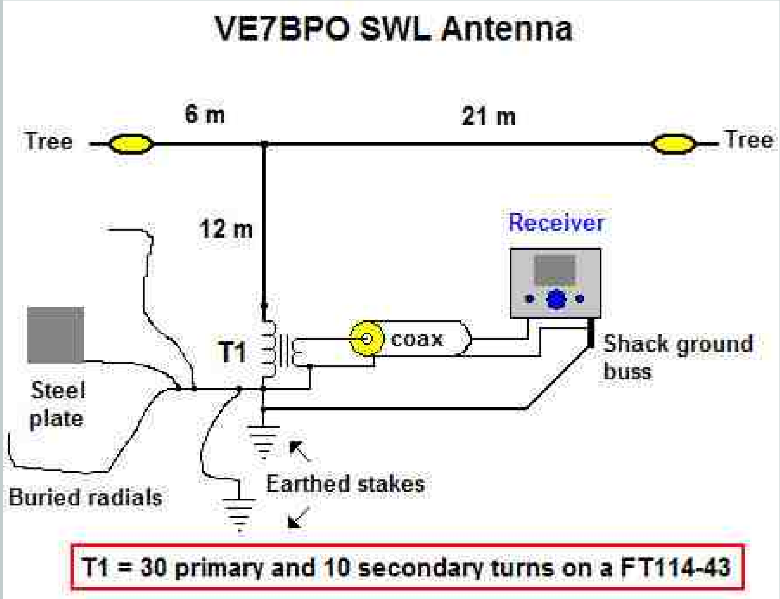
Introduction

My first shortwave antenna was a simple end-fed wire which started at my bedroom window and extended out horizontally to a tree which was 25 feet away from our house. The antenna feed line was a short piece of wire that connected to the near end of the antenna and entered the house through a small hole I made in my wooden window sill. This feed line was directly connected to my receiver's high impedance antenna input. My station ground was long piece of wire that was connected to a copper pipe located in the bathroom next door. While this antenna brought in "the world" to my bedroom, it was extremely noisy. Directly connecting your antenna feed line and house ground system to your receiver are not good RFI reduction practices. This web page will explore some experiments in trying to minimize the Radio Frequency Interference (RFI) arising from my local environment.

Indoor RFI sources are usually plentiful. Electrical appliances such as washing machines, televisions, DVD players, computers and electrical wiring may all emit RFI which your antenna, or directly connected house ground system may pick up and feed to your receiver. Certain indoor devices may be really strong RFI sources and will have to be eliminated or decoupled. Outside of your house are also potential sources of RFI. These may include such things as power transformers, electric fence and garage door openers. RFI location and reduction is out of scope for this web page, however a good place to learn more is the ARRL RFI book. To find RFI sources in your home and neighborhood, try using a battery powered AM radio. At my QTH, I located a noisy VCR inside the house my Grundig S350. We rarely use this VCR and now just leave it unplugged until we actually need to operate it. I tuned the receiver to an empty frequency and found this VCR by trial and error. Please note this web page is concerned with feeding a shortwave listening antenna and does not describe providing protection against lightning. For web sites which covers lightening plus RF ground please refer to this offering from W8JI or eHam.net.
Protect your home and family from lightening !!



Outdoor MF and HF Antenna



The schematic to the left summarizes the outdoor VE7BPO MF and HF receiving antenna system for summer 2007. Although modest for a big city lot, this antenna seems to pull in the DX and is relatively free of RFI. This antenna was just a case of "putting as much wire in the sky as possible" and the dimensions are indicated for interest sake only. The 27 meter long horizontal section is supported between 2 trees at a height of about 14 meters high. The weight of the vertical element wire plus slack in the horizontal wire droop it to about 13 meters high in the center. The vertical section is soldered to the horizontal wire 6 meters from the nearest anchoring tree and runs straight down to the antenna feed point which is about 1 meter off the ground. The feed point is a piece of copper-clad PC board (with isolated sections created with a hobbyist motor tool) and is bolted to a long copper pipe which serves as the first station earth-grounding stake. A transformer (T1) configured as a UNUN (unbalanced-to-unbalanced) is used to interface the antenna with 50 ohm coax that runs through the house and into the radio shack. Some rudimentary experiments with the UNUN and the earth-grounding system were undertaken.

The methods I used to potentially lower unwanted RFI to my antenna system are as follows:

1.The receiver and power supply are independently connected to a single, central ground point (ground buss) in the radio shack.
2.6-10 gauge wire is used for my ground system (not including the radials which are bare 12 gauge wire).
3.The ground wire connecting to my first earth stake to the station ground buss is just outside the shack window and is short as possible to provide a low impedance and low inductance path for MF and HF frequencies.
4.There is a second ground stake located 1 meter from the primary ground stake (I will add 2-4 more in time).
5.I have a large piece of steel buried underneath the soil tied in to my system as well as 3 bare copper radials. The radials are 3 - 7 meters in length.
6.New RG58/U coax was used as the feed line.
7.All wire splices in the grounding system are soldered and taped up. I used conductive grease (to prevent oxidation at the wire-stake interface) on any clamps connected to ground stakes. My ground stakes are ~ 2 meters long.
8.The earth grounding area soil is moist and peat-laden and is watered regularly.
9.I plan to maintain this ground system every 2 years.

Best 73's ! VE7BPO

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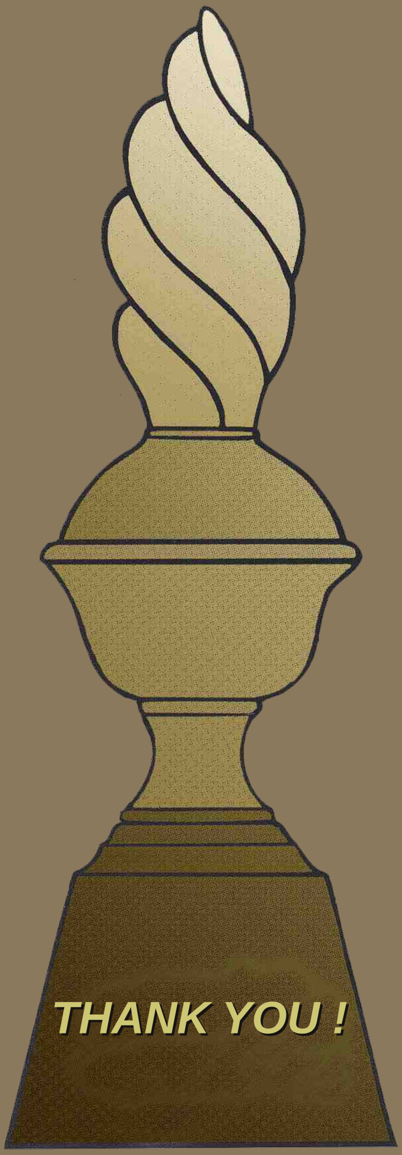

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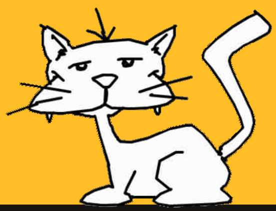
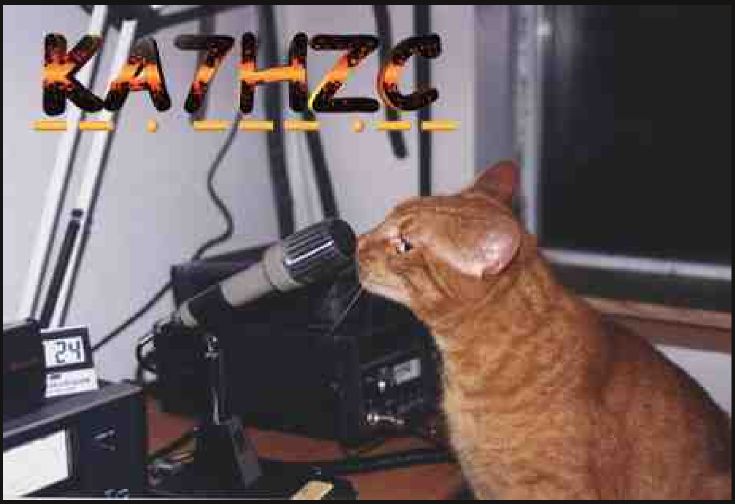
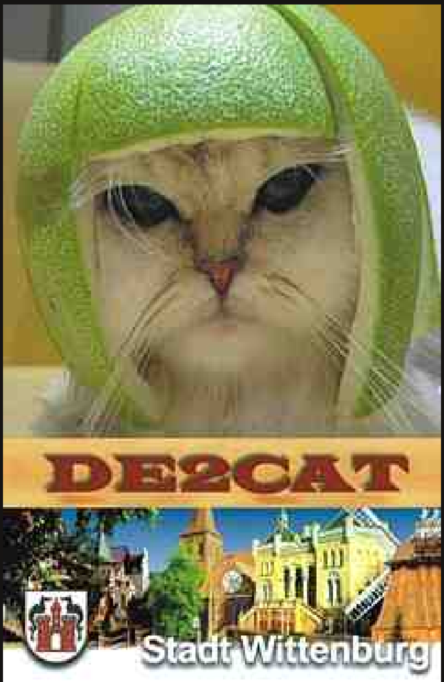


COMIC'S HAM

Have some fun...

HAM cats !





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Send your informations to : f5sld@free.fr
Website : http://www.hammag.com
This magazine has been sent to 6,900 Emails

Erratum : concerning the photo of the article "Tak-antenna" (Ham-mag N.9), the call was KI6HRH (not KI6RHR), sorry for this mistake.

HAM-MAG

December 2009
[N.11]

F5SLD's Free HAM Magazine - 100% HAM RADIO

ANTENNAS FOR LIMITED SPACE

Antenna for limited space

High Voltage Breakdown Tester

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NO FUTURE ?

HAM-MAG is one year old. We have now more than 7,500 subscribers all over the wolrd and many more readers thanks to the Web. Actually this is not a great succes. We have sent many E-mails to retailers without any answer. No retailers want to collaborate to HAM-MAG. Another danger is the articles... We have not any articles left for the next issue !
To live this magazine needs ads and articles.
If we don't find any retailer who trust in this magazine and if we don't receive informations and articles ***this issue could be the last***.
The last way shall be to sell the issue but this is not our philosophy and it will be against the Ham spirit.
You must know that I make this magazine during my pastime, this is not my real job, and there are only 24 hours in a day and I have not enough time to find and to make articles.

So what is the future for HAM-MAG in english ? I don't really know...

I send to you and yours all my best wishes for Xmas and a very happy new year 2010.
Take care.

Yours faithfully,
Vincent Faucheux - F5SLD
Chief Editor

****

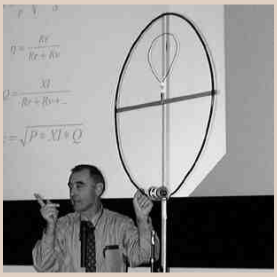
Hola, Amigos:
The FBI says there is no basis of a “Federal Crime” being committed (for the forgeries of USA callsigns), so my BIG JOB now is to hopefully MAKE it a “FEDERAL CRIME” via amendment of the FCC Rules.
See download at:
http://www.k6vva.com/fccpfr

FYI & 73…
Rick, K6VVA * The Locust

ANTENNAS FOR LIMITED SPACE

By Stan Bourke VK2EL

(sbourke2@bigpond.com)



Introduction

Many amateurs are faced with the situation whereby they cannot put-up full sized HF antennae. Some of the reasons for this can include: small block size, neighborhood esthetics and/or living in a unit/village environment (with or without body corporate restrictions). So this short article isn't meant to be a suggestion that you should go home and pull down your tri-band beam, or even your G5RV wire antenna. Rather, it is meant to offer some practical suggestions about getting on air from a "difficult" location.

Background

Up until about four years ago, my XYL, Val and I lived on a good-sized block at Ulladulla on the New South Wales South coast. It was a very good radio site, antennae presented no problems and there was a lear take-off in all directions. However, I am no spring chicken and, like many in our situation, we decided the time had come for us to move to a self-care retirement village. The reason for this is simply the prospect of no more home maintenance, mowing lawns and gardening! We looked at about 20 retirement villages and units, both city and country. The final decision was for Kiama Council's Blue Haven village.

Our New Life

We moved and now live on the fourth floor of a seven story building. Photograph 1 shows our new home and it meets many of our needs especially the maintenance, mowing and gardening criteria. However, I have been a radio amateur for 63 years, I have thoroughly enjoyed my hobby, and I wanted to be able to continue to enjoy it for many years to come. The big question I faced was: How to get on air from such a location?

Well, VHF/ UHF isn't much of a problem if you have a local repeater or two. We selected a unit on the corner of the building so I only have a neighbour on one side and I have a clear path to the repeaters in the area. But, I like HF DX, especially CW.

Antenna Possibilities

The basic problem of getting back on air from a location such as ours revolves around antennae. Of course VHF./UHF antennae are not a real problem, even if you have only a small balcony and there is a local repeater. However, operating on the HF bands calls for a lot of ingenuity!

So, how do we go about finding a suitable HF antenna, especially one that is unobtrusive, even clandestine? Look at the building features and think about using guttering, downpipes and balcony railings matched to your transceiver with a good antenna tuner.

Try various ideas out. Be innovative. Don't be disheartened and give up if an idea doesn't work. There is almost always something around you that you can use for an antenna.

In my early experiments, one of my best was the aluminium railing along the front of my balcony:- all VK states and ZL1-4, plus A35 and FK8 on six!

Unfortunately in a village and unit environment you will be plagued by RF noise emanating from plasma TVs, computers and other household appliances that are in close proximity. This initially led me to look at loop antennae that provide some noise advantages over dipoles and, because of its relatively small size, I started to consider using a magnetic loop antenna?

The Magnetic Loop

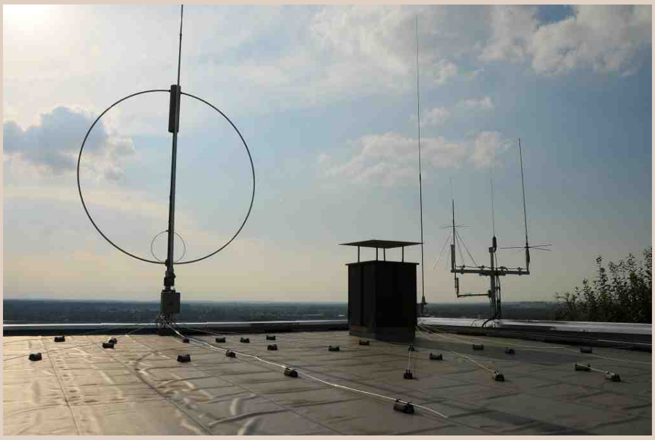
This is a small circular loop antenna (less than a quarter wave in circumference). A five feet (1.5 m) diameter loop can be tuned to 20, 30 and 40m. An antenna this size can certainly be discreetly installed on the average unit balcony. Although small compared to its dipole equivalent, the magnetic loop has a high efficiency and is more efficient than a loaded dipole/vertical (of around the same size). In my installation, I mounted my loops vertically and constructed them from copper tubing.. I fashioned my magnetic loops from the information provided in the references listed at the end of this article.

A magnetic loop needs a good wide-spaced tuning capacitor or vacuum variable to resonate the loop. This capacitor is the critical part of building a magnetic loop and can be made up using a combination of fixed and variable capacitors to obtain the necessary capacitance. However, both the fixed and variable must be capable of withstanding several kV and be suitable for high RF currents.

Two loops were mounted on a common "mast".

My magnetic loop antenna is shown in photograph 2. To cover the range from 40 to 10m, I used two loops mounted one inside the other on a common wooden mast. The larger loop tunes from 5 to 12 MHz and the smaller loop tunes 14 to 28 MHz. The feed method is as described in the references and there are separate co-ax coupling loops for each loop (mounted on the circular disks at the bottom of each loop).

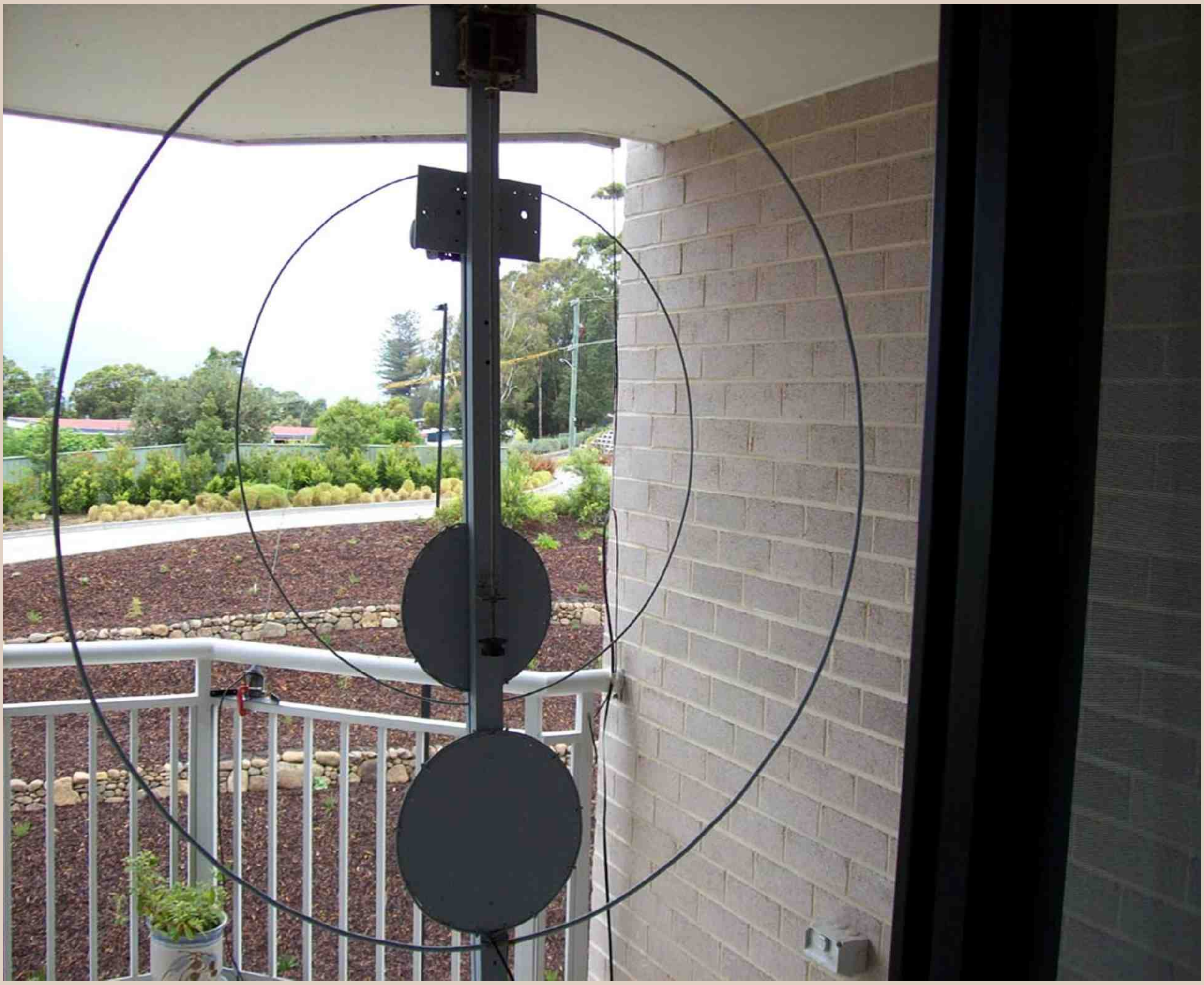
The square object at the top of each loop is the mounting for the variable capacitor. The magnetic loop is directional and the whole assembly can be rotated by hand.



The only disadvantage of the magnetic loop is that it is narrow band and require constant retuning to cover any particular band. But for me, this is a small price to pay for being able to once again operate effectively on the HF bands. In use, I manually tune the appropriate loop for minimum VSWR around the centre of where I wish to operate in the band and, by using an antenna tuner, I find I can extend the operating range before I have to retune the loop.

My main interests are on 7 MHz and above; however, I have started to think about a loop for 80m.

If you are one of the many amateurs who cannot get on HF or who have had to give up HF because of antenna restrictions, I hope this short article will give you some ideas and encouragement to get back onto HF.



Photograph 2

73 de Stan VK2EL

SOME REFERENCES
http://vk5bar.qsl.net/vk5bar/
http://www.standpipe.com/w2bri/build.htm
http://www.kr1st.com/magloop.htm
http://qsl.net/mnqrp/Loop/Mag_Loops.htm

LEARNING AND USING CW

By KA6KBC, Bill

Learning and Using CW:

For me my first Rig was a Homebrew 6L6 Transmitter that my Dad (WB6CGN SK) and I built. It was crystal controlled. I put out a blistering 10 watts. As a Novice none of us really knew what we were doing, but it was lots of fun. It took me weeks to make my first CW contact. Back then you got really good at sending "CQ CQ CQ DE CALLSign" over and over again. I started making a few contacts then receiving QSL cards, which was a rush. These were the most thrilling days of Ham Radio for me. I still remember how my heart pumped and my hands trembled. For a my first few QSO's I forgot how to copy Morse Code, but with time I improved my skills. These days the hobby has changed. Morse Code is not required in the US anymore, but I would encourage all Hams to at least give it a fair try. There are some great resources on the Web to help you learn so you are prepare to go live on the Air.

Learn CW Online – For Free:

“At LCWO you can learn Morse telegraphy (CW) online in your browser. You don't need to install a program on your computer, and you always have your personal settings available, from any computer on the globe with an internet connection. You can also easily track your progress by means of different statistical functions.

LCWO was established in May 2008 by Fabian Kurz, DJ1YFK, hoping to make studying and practicing CW as easy and effortless as possible.

There are already hundreds of training programs, MP3/CD courses and practice aids available, but LCWO follows a radically different concept: While sticking to well-proven methods for learning and practice, all you need for using LCWO is a web browser!

This gives the user the liberty to practice CW wherever an internet connection is available, always retaining the personal settings, scores and statistics.

Currently the site, which is available in 20 languages offers a complete Koch method Morse course, code group practice, callsign - and plain text training modes and also allows to convert random text to Morse MP3s.

A high score list is available to compare results with other users, personal statistics help to track training progress. LCWO.net is a non-commercial project. Creating a free account only takes a few seconds, and you can start practicing CW right away!

Sign up for a free account (or use username "test", password "test" to play around) and start learning or improving your CW today.”

http://lcwo.net/ - Learn CW Online

73's – Bill Brown – KA6KBC

QRPp Transceiver Simple Kit Pixie

By KA6KBC, Bill

The Pixie is a small, direct conversion CW QRPp transceiver using just a handful of common parts and is a retail kit for $10. Most people should be able to build it. This is a Fun little kit. However it might be harder for a first timer, but with some help you can make a working Radio. It is a cheap kit – However the $10 price is not completely correct. $10 for the PCB/Parts then $3 for the Crystal (Plus shipping). Then you have to buy connectors/Wire/Sockets/Solder/enclosure. I would guess in a box with the connectors/Switches you will be closer to $20. But worth the money just based on the learning experience.

The Pixie 2 is an HF CW transceiver, with a standard two transistor transmitter. It's a Colpitts oscillator, left running, and a keyed power amplifier. There is no external mixer used to feed the audio amplifier. The mixing is done at the final amplifier itself with the audio taken off the emitter. Depending on the PA device chosen, RF power outputs of between 100mW and 500mW may be achieved (I had to cherry pick transistors, but you can get about 400 mW with a 9V Cell). The only components which are band critical are in the TX PA output, so modifying for different bands (40M to 80M) can be done. On receive, the TX PA is used as a mixer which feeds the LM386 audio amplifier. This is a bare bones transceiver there's no RIT, a simple switch and cap in parallel, between the crystal will work as an offset though and there’s no volume control for the audio. The whole idea here was to make a tiny rig that worked, with room for improvements, using a minimum of parts. In some cases you may also have Hum with an external Power Supply – I’d recommend a Battery and you might also hear some BCI (Broadcast interference). Hams have made many contacts many of them have been over hundreds of miles away. It takes some skills to make contacts, but it can be done. Not a great primary rig, but you will have some fun building and playing with it.

CONSTRUCTION:

You need to be able to solder and trouble shoot a little, but it’s worth the time. Also you need to know a little about reading a schematic as some of the instructions could be clearer.

You will need a low wattage soldering iron with a small tip, some rosin core solder, solder wick (for removing parts), small wire cutters, needle nose pliers. Use Eye Protection, while cutting leads.

All the components, except for U1 the LM386, are mounted vertically. I’d recommend to start at one end of the board and work to the other. There are no coils to wind, no alignment either. Once you apply power you should be able to hear the oscillator start up by listening on a near by receiver. Then check for audio at the headphones. If you run into noise/oscillation check the power. Use a new alkaline battery.

Parts kits for the Pixie 2 are available from:

HSC Electronics, 3500 Ryder St., Santa Clara, CA 95051. The cost is $9.95 + $2.00 shipping and handling for the PC board and all board mounted components except the crystal. Chokes will be provided for both 40 and 80 meters. Phone 1-800-4HALTED. http://www.halted.com/

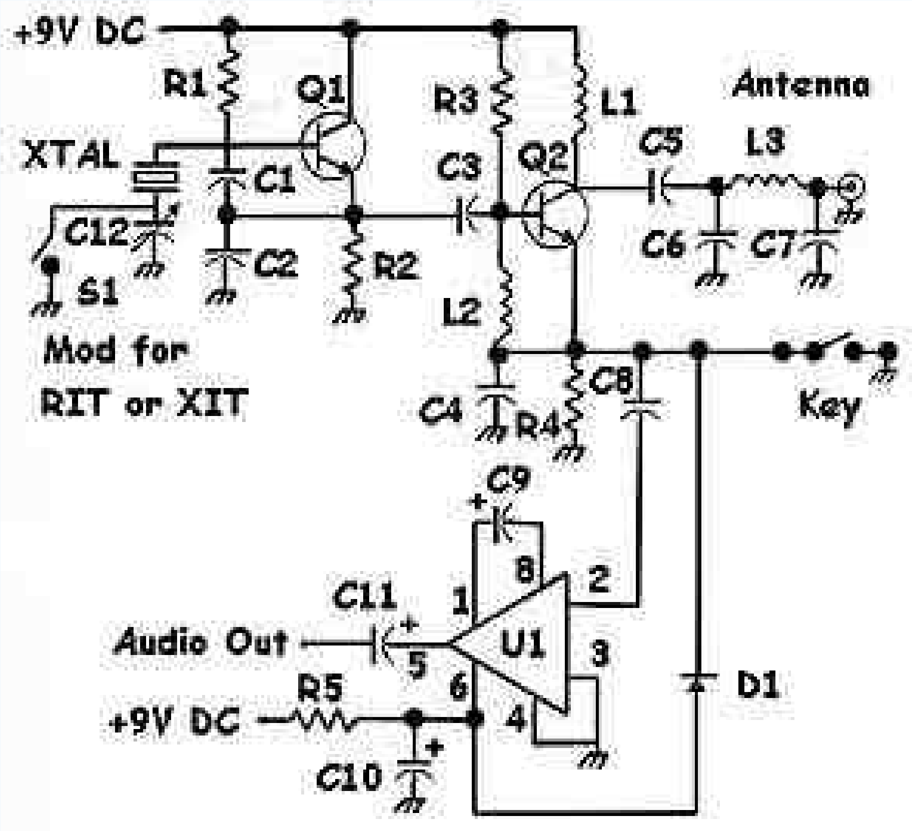
You will need the following additional items (not supplied in the kit): 2-RCA jacks, or 3.5mm jacks for key and antenna 1-3.5 mm mono or stereo jack, depending upon your headphones 1-short piece of RG-174 for antenna connection 1-crystal socket or pair of mini-alligator clips - http://www.amqrp.org/kits/crystals/index.html

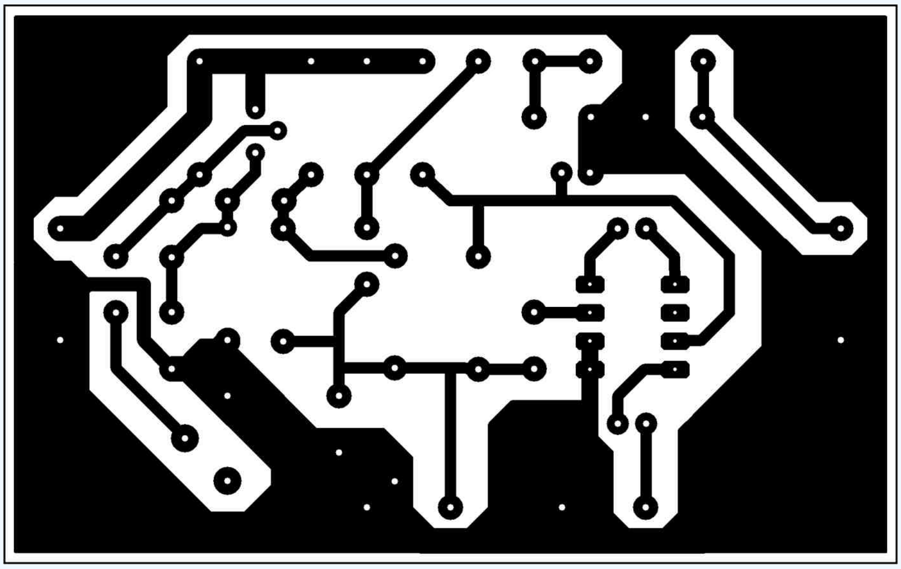
Also there are a lot of good resources on the Web:

http://www.al7fs.us/AL7FS2.html

http://homepage.ntlworld.com/lapthorn/pixie.htm

73 de Bill - KA6KBC (see pictures on next page)


+9V DC
R1
Q1
R3
L1
Antenna
XTAL
C1
C3
Q2
C5
L3
C12
C2
R2
C6
C7
S1
L2
Mod for
RIT or XIT
C8
C4
R4
Key
C9
+
8
2
C11
1
Audio Out
U1
5
3
R5
6
D1
+9V DC
4
C10
+



An Unusual Two Band Magnetic Loop Antenna

(for 14 and 10 MHz)

By OK1FOU

1. INTRODUCTION

This article describes how to build a relatively small loop antenna which can be placed for instance at the balcony. My design is made for modest conditions, e.g. an antenna mounted on a balcony in a block house. It is especially suitable for a two band antenna covering two adjacent amateur radio bands (10/14 MHz, 14/18, etc.).

The antenna was practically tested on 10 MHz band.

The design was inspired by an article by DJ3RW about an unusual design of magnetic loop antenna for 50 MHz band, printed in Funkamateur 10/97.

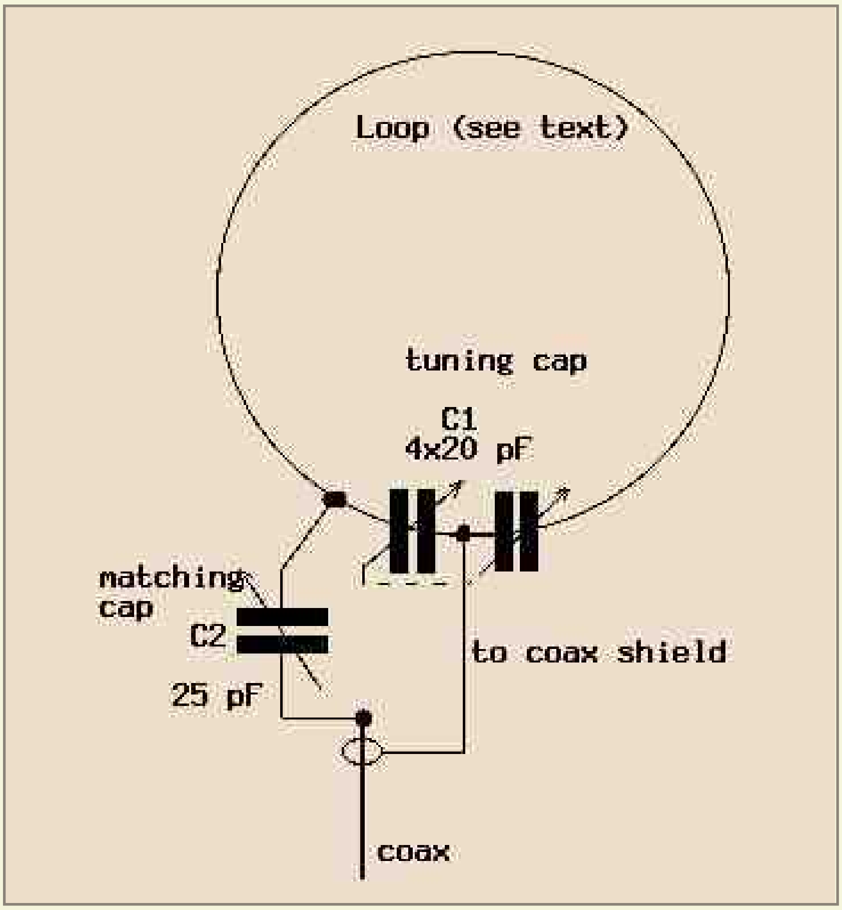
2. DESIGN HILIGHTS

The magloop antenna described here has a different feeding than the usual kind with a coupling loop. Also the tuning capacitor is not mounted at the "top" as usually, it is placed at the "bottom", fed part of the loop.

The loop is tuned by a symmetric, two-section variable capacitor with the common rotor connected to the coax cable shielding.

This antenna is "side-fed" directly from the coax center wire through a (variable) capacitor to one of the two "hot" ends of the tuning capacitor.

A picture will say much more:



3. INSTRUCMENTS

You will need a GDO to check resonant frequency of the loop.

4. MATERIAL

Any data in the following list printed in underlined italic indicate measures or values I have tested on my 10/14 MHz loop.

Two wooden pales, about 1 meter long, or similar stuff to hold the loop.

A piece (about 3 meters) of loudspeaker wicker cable. The thicker the better. You might perhaps use a copper tube, too. This is because of the high current in the loop (DJ3RW says 60 A at 100 W output!).

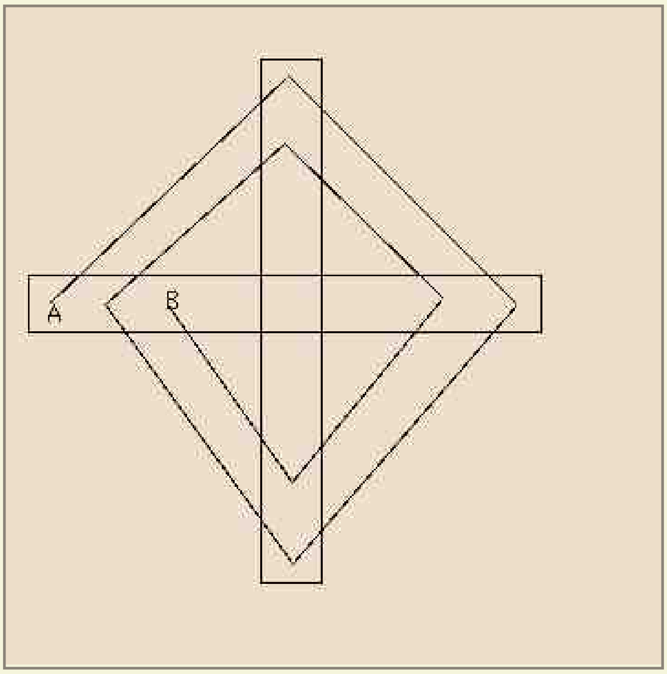
A two-section symmetric variable capacitor (I used 4x12.5 pF)

A variable capacitor for coupling; or two fixed capacitors plus a switch (see below). I used 25 pF fixed capacitor for 10 MHz.

5. CONSTRUCTION

First, make a symmetric cross of the two pales. The binding is up to you. I used nails.

Take the wicker cable and make two turns on the cross. Leave 5 cm (2 inch) space between the turns and leave a piece of free cable hanging at the end. See also picture:



Take the GDO and test resonant frequency of an open loop. The frequency should be slightly higher than the highest frequency you want to use.

Bands MHz	Open loop resonant frequency
10/14	16-17
14/18	21-22
18/21	24-25
21/24	26-28

The resonant frequency of your loop will decrease after you add the tuning capacitor and connect the feed!

Mount the tuning capacitor and connect both ends of the loop to its stators. Fix the coax feed and solder its shield to the rotor of the tuning capacitor.

If you test the loop now, it should resonate slightly above the desired operating frequency. When I was testing my 10/14 MHz antenna at this point, it resonated between 11 and 16 MHz.

Mount the coupling capacitor. Connect one end the coax feed core and the other one to either end of the loop.

Now there are two possibilities:
If you use a variable capacitor, you can do it as described above without further changes. Tuning the coupling capacitor is your problem. I did not test this, but it is almost obvious that a servo will be necessary.
You can make it cheaper if you add a dial to the rotor and mark positions for each band.
You don't have to tune the coupling capacitor across one band (unless it's 10 meters). So you can put two fixed capacitors (let's call them CL and CH) in series. CL will be used for the lower band (in my case it's 25 pF for 10 MHz) and should make a perfect match. While CH combined in series with CL has to match the antenna on the higher band. Put a switch or relay across CH and don't forget that the switch is also a capacitor of its kind. When the switch is open or short, the higher or the lower band is coupled, respectively. (Sorry, no picture available) Well done! :-)

6. SETUP

When the antenna is mounted, connect it and test its resonant frequency on your receiver. Loaded antenna will "drop" slightly - mine changed its resonant range from 11-16 MHz to approximately 10-15 MHz over the full variation of the tuning capacitor.
When tuning the antenna, first find the best position of the tuning capacitor by listening. After you have tuned a relatively sharp peak, tune the coupling capacitor (if you have a variable one) for best possible SWR. My antenna has 1:1 SWR on 10 MHz band without an additional ATU. (In fact the loop itself with all the tuning and coupling circuits is an excellent ATU).

7. BANDWIDTH

My antenna has SWR 1:1 almost all over 10 MHz band. The SWR is getting slightly worse near band boundaries, but it is just enough to see the meter taking a very moderate move.
I didn't test 14 MHz because of a missing 2nd coupling capacitor. If it worked on 14 MHz the same way, you should be able to cover the whole CW sub-band with SWR 1:1 and most of the band with SWR better than 1:2 if not 1:1.5

8. THE TRUTH - *Practical experience*

I haven't heard much of a DX traffic. But my antenna is on the balcony on the third floor, surrounded by 30 meters high concrete buildings.
I have made QSO's mostly with Europe. Sometimes I get reports which are worse by 3S from stations with comparable output. Sometimes the other OM gives me even 1S more than I can hear him, again if the power is roughly the same.
Some examples (all QSO's were on 10 MHz):
RA6WF 559/559 - LA6GIA 559/429 - G0NXA 559/419 - LZ1QK 579/589

I have received some questions regarding calculation, modification for lower bands, radiation pattern, etc. I am convinced that you can get the best answers from competent people who maintain the above mentioned pages. I actually work in a bank and have no measuring equipment at work or at home :) In fact, the above design was a very lucky experiment.

9. Feedback

Please let me know if you try to build this antenna, if you want to make any comments. I am very interested what you think about this article.

In fact, writing this article took me at least three times longer than the time to build the fly-swat. So at least three of you should make some use of it, don't you think so?

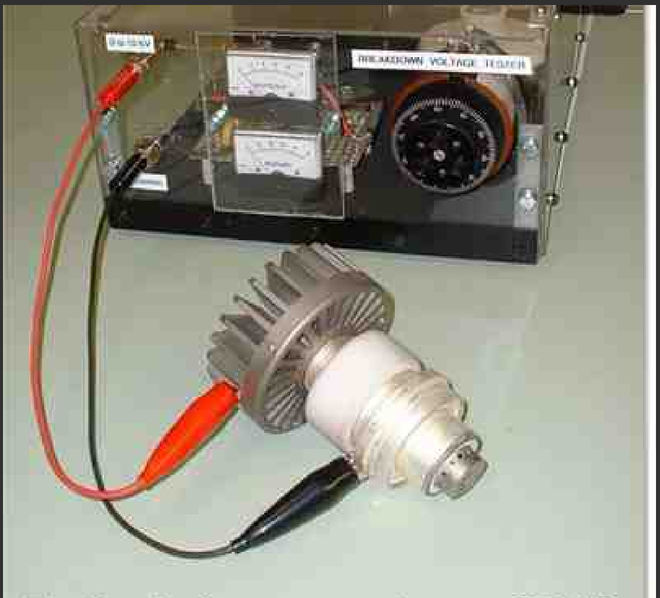
73 de Jindra, OK1FOU
http://www.qsl.net/ok1fou/e_main.htm

High Voltage Breakdown Tester

By K8CU

Realhamradio.com

- Necessary for testing of any high voltage component
- Tests vacuum tubes, high voltage capacitors, vacuum relays, etc.
- Testing components BEFORE circuit operation prevents equipment damage
- To use, just hook up component, adjust the high voltage with panel variac, then read leakage current on panel meter.
- Easy to make at home. Requires a block of wood for the base and Plexiglass for the panel and enclosure.



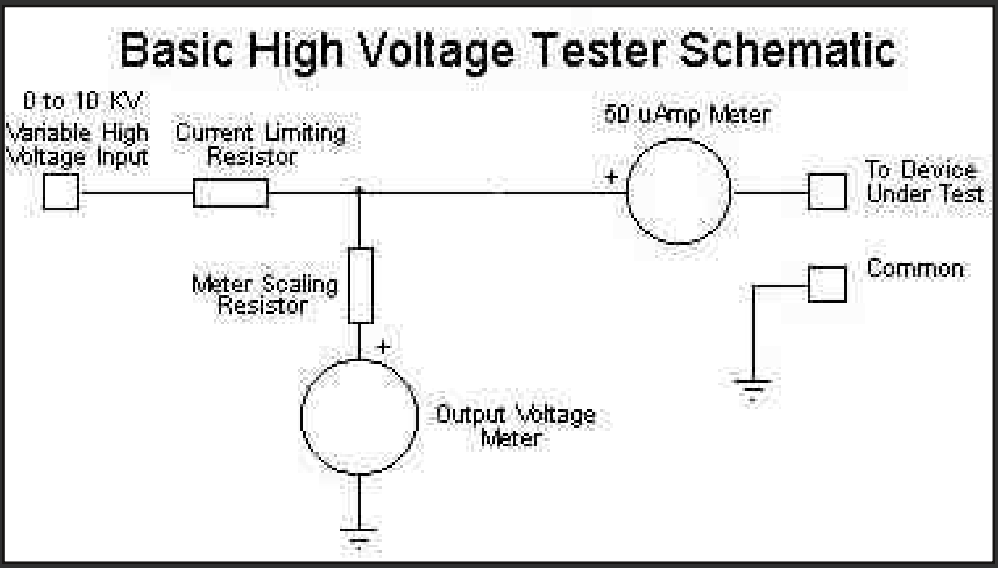
Testing leakage current on a GS31B

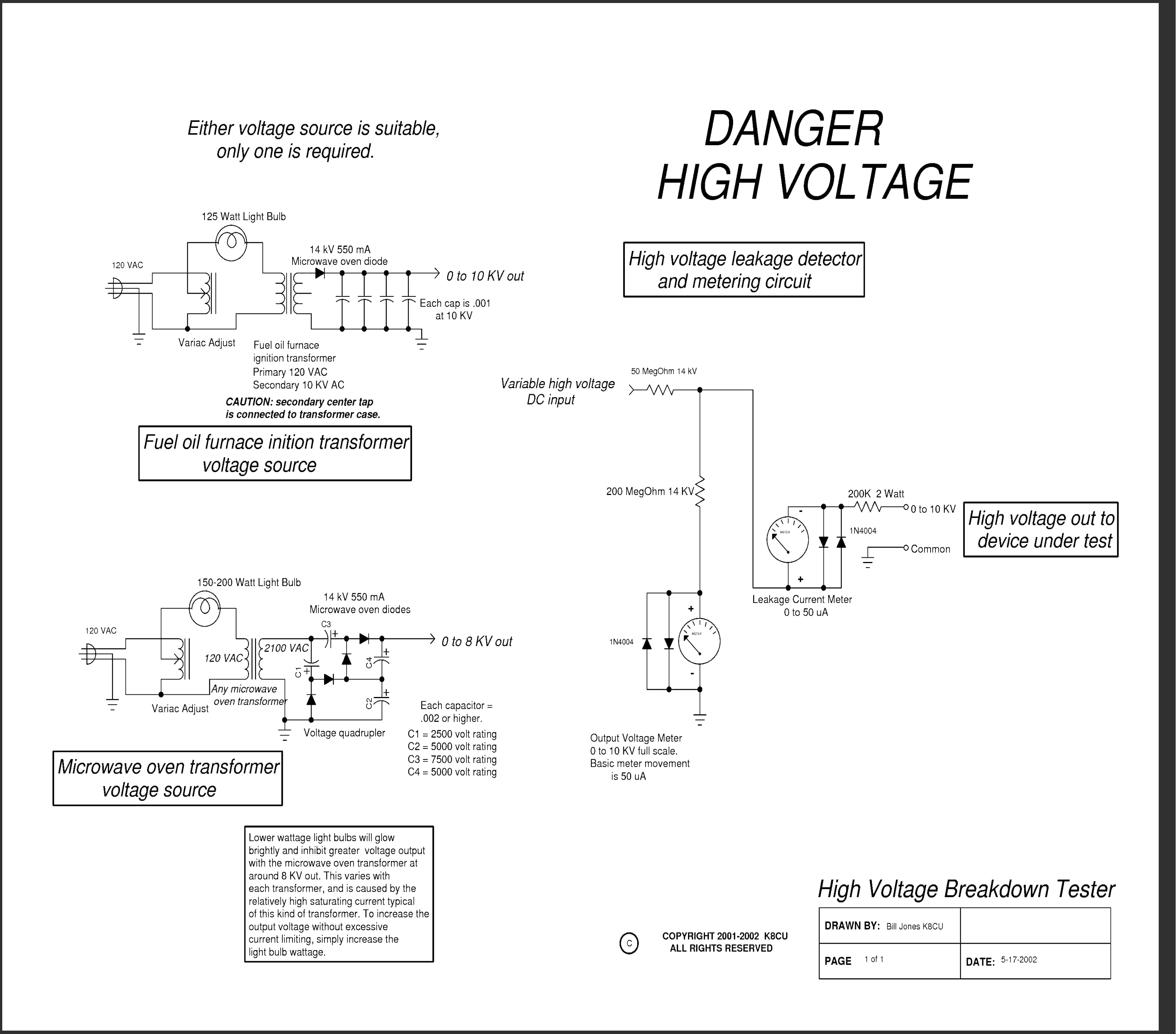
Introduction

Many components used in Amateur Radio home projects are used or may have been in stock for years prior to purchase. It is important to have a method to test these parts prior to installation in equipment. This is especially true for components that will be used in high voltage circuitry, where the potential for catastrophic component failure is highest. During an amplifier project, it became necessary to test new old stock Russian military surplus vacuum tubes.

Since commercially available high voltage testers are relatively expensive, I decided to build a low cost version suitable for home workshop use. Testing a variety of high voltage components like vacuum tubes, vacuum capacitors, vacuum relays, high voltage diodes and transistors would then be possible. This project can be described as a junk box effort. To increase the chances of successfully completing this project, two different circuits are offered that generate the variable DC high voltage.

Always test newly acquired tubes and high voltage components with a tester before use. A simple Ohmmeter test is not enough.


Basic High Voltage Tester Schematic
0 to 10 KV Variable High Voltage Input
Current Limiting Resistor
50 uAmp Meter
+
To Device Under Test
Common
Meter Scaling Resistor
+
Output Voltage Meter


Either voltage source is suitable, only one is required.
DANGER
HIGH VOLTAGE
125 Watt Light Bulb
120 VAC
14 kV 550 mA
Microwave oven diode
0 to 10 KV out
Each cap is .001 at 10 KV
Variac Adjust
Fuel oil furnace ignition transformer
Primary 120 VAC
Secondary 10 KV AC
CAUTION: secondary center tap is connected to transformer case.
Fuel oil furnace inition transformer voltage source
High voltage leakage detector and metering circuit
Variable high voltage DC input
50 MegOhm 14 kV
200 MegOhm 14 KV
200K 2 Watt
0 to 10 KV
1N4004
Common
High voltage out to device under test
Leakage Current Meter 0 to 50 uA
150-200 Watt Light Bulb
14 kV 550 mA
Microwave oven diodes
C3
120 VAC
120 VAC
2100 VAC
0 to 8 KV out
C1
C4
C2
Any microwave oven transformer
Variac Adjust
Voltage quadrupler
Each capacitor = .002 or higher.
C1 = 2500 volt rating
C2 = 5000 volt rating
C3 = 7500 volt rating
C4 = 5000 volt rating
1N4004
Output Voltage Meter
0 to 10 KV full scale.
Basic meter movement is 50 uA
Microwave oven transformer voltage source

Lower wattage light bulbs will glow brightly and inhibit greater voltage output with the microwave oven transformer at around 8 KV out. This varies with each transformer, and is caused by the relatively high saturating current typical of this kind of transformer. To increase the output voltage without excessive current limiting, simply increase the light bulb wattage.

High Voltage Breakdown Tester

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ALL RIGHTS RESERVED

DRAWN BY: Bill Jones K8CU	
PAGE 1 of 1	**DATE:** 5-17-2002

High Voltage Tester Basics

Dielectric breakdown is where a voltage increase causes an "insulator-to-conductor" transition in a material. It typically is an irreversible effect permanently damaging the element, unless current limited by the circuit. If conduction takes place in a gas (air) then this post-breakdown conduction is called an electrical "arc" or "spark". 1

The basic idea of a breakdown voltage tester is to apply current limited high voltage to an insulator, and raise the voltage until the desired voltage test level is reached, or until a small amount (1 to 2 micro Amps) of leakage current flows. If the insulation does break down, the test instrument limits the current flow, and the process can be stopped without destroying the item under test.

Some commercial test units have an automatic circuit that will cease application of the high voltage when a selected leakage current occurs. In a Go-No Go production test environment, this helps relatively untrained operators decide if a component is good or bad. Typically a relay circuit will trip, a loud buzzer will sound, and the test is stopped. A front panel reset button starts everything over.

Some commercial units have a "burn" mode. This allows a current limited arc to continue. This is helpful to physically determine where a fault is located. For amateur use, the automatic trip circuitry may be eliminated. Instead, the test equipment operator will observe the leakage measurement and then turn the voltage down and stop the test if breakdown happens. Also, a manual "burn" mode is possible by simply allowing the current limited arc to continue while checking for the location of the fault.

Circuit Description

A voltage level of about 8 to 10-kV is useful for testing many amateur radio components. The circuit schematic shows two alternative methods to get a variable high voltage source. One method uses a common fuel oil furnace ignition transformer. This transformer has a 120 Volt AC primary, and a 10-kV secondary, with the case being the transformer secondary center tap. This means that the transformer case is electrified with 5-kV AC, and must be insulated from the mounting base. Also, take care to not come into contact with this case during operation of this instrument. A simple Plexiglas shield will keep you at a safe distance. The high voltage tester I have uses one of these transformers. It was originally a flea market find at a bargain price. Sure, it was rusty, and needed some paint, but the internal voltage windings were intact. The fuel oil ignition type transformer will generate 10-kV DC at the tester output electrode. A common neon sign transformer will also work.

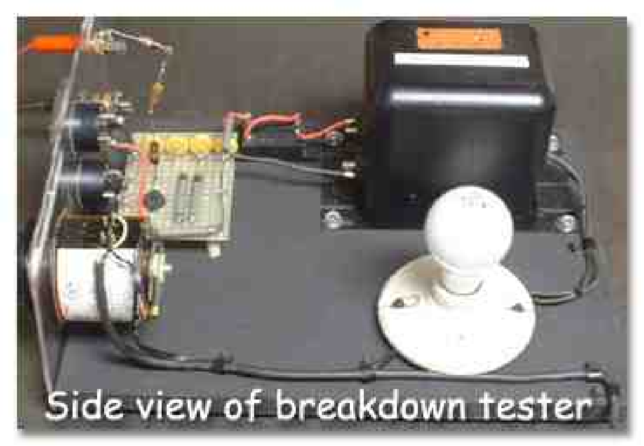
A small adjustable AC primary transformer called a variac is used to vary the input voltage to the high voltage transformer. I used a small panel mounted type of variac on my tester. Since these are expensive if purchased new, you may not want to dedicate an individual variac to this test instrument. In this case, consider using an external variac you may already have in your workshop as a variable voltage control.

The other method of generating the variable high voltage source uses a microwave oven transformer. This transformer was obtained from a bad microwave oven. The output of this transformer is about 2100-Volts AC, with a 120-Volt AC primary. Nearly any microwave oven transformer will do, even the ones from the relatively small ovens are satisfactory. Old ovens may have a useful diode too. A voltage quadrupler shown in the circuit diagram boosts the voltage up to about the 8-kV range.

The light bulb in the primary of the high voltage transformer is an old but good method of limiting the current to the transformer primary in the event of a major component failure. For example, if the primary of the high voltage transformer completely shorts, all that happens is that the lamp will burn at full brilliance. The idea behind this is not new. It has been used for years, so it is well proven. It also gives a visual indication of the relative amount of current flow into the transformer. Under normal use, the bulb may glow some at the higher end of the voltage output range.

Note that when using the microwave oven transformer circuit, the light bulb may glow much more brightly as the primary voltage approaches 120-Volts AC. This varies with each transformer, and is caused by a relatively high saturating current. This is typical of the microwave oven transformer.2 If you are using this type of transformer, and your measured high voltage output is reduced to less than 8 kV by the limiting action of the light bulb, just increase the light bulb wattage to about 150 to 200 Watts. Otherwise, a light bulb rating of about 125-Watts in the fuel oil ignition transformer circuit works well. Smaller wattage light bulbs will reduce the maximum high voltage output of this tester. Do not eliminate the light bulb from the circuit. It doesn't cost much and is an important circuit protector.

Breakdown Tester Construction


Side view of breakdown tester

Since the panel meters are in contact with high voltage, make sure to use an insulating front panel material. I chose common Plexiglas since it was available at a local hardware store, and they would also cut it to size for me. I used a 6-inch by 12-inch piece for the front panel. Plexiglas is also available in various colors, but I chose the basic clear variety since I can see through it to locate any evidence of corona points. The base plate for this tester is also recommended to be an insulator. A good choice here is wood. My tester has a 12-inch by 16-inch painted plywood base 1/2-inch thick. The paint would conduct slightly and give leakage current indications until it became very dry.

Components on the Plexiglas front panel include the small variac, two 50-microAmp panel meters, and two phone plug jacks for the electrodes. Two right angle metal braces mounted on the base plate support the Plexiglas front panel. The high voltage transformer, light bulb current limiter, and a small circuit board occupy the main plywood base support. The circuit board is a small piece of plain perforated fiberglass material, and is supported by four 1/2-inch tall ceramic standoff insulators. The various components on the circuit board are simply wired in breadboard point to point style.

An insulating clear Plexiglas cover that surrounds the tester is used to protect the operator from accidental contact with internal circuitry. The dielectric strength of Plexiglas is 30 kV/mm. A 1/8-inch thickness will then have a dielectric strength of about 95-kV. With the voltages used in this circuit, this gives an insulating safety factor of about ten. The external Plexiglas shroud is assembled with 1/2-inch aluminum angle obtained from a hardware store. Since the front panel meters may not provide adequate insulation, a single clear Plexiglas sheet is mounted in front of both meters. This protects against meter failure and possible accidental voltage contact. The meters used in this tester required a 3.5-inch by 5-inch protective front sheet held to the front panel by two 1/2-inch standoffs.

Pay attention to the voltage rating of the resistors used in this circuit. Most common resistors have a maximum voltage rating of about 300 Volts. You may achieve the necessary voltage rating by simply using a number of resistors in series to arrive at a safe voltage rating for a specific resistance value. For example, two 300-Volt resistors in series results in a 600-Volt rating.

Two high value high voltage resistors are required for this circuit; 50 MegOhm and 200 MegOhm. Sometimes these can be found at surplus outlets or on Ebay.

Since high voltages are involved, it's necessary to build this tester with plenty of open space between components and wiring. Try for at least a half-inch spacing. The use of test prod or high voltage wire rated to at least 10 kV is recommended. Also, the solder joints need to be as smooth as you can get without sharp points. Breakdown voltage is also a function of geometry. These points will encourage corona and will cause slight leakage current indications with no component hooked up for testing.1 With no component hooked up, just turn the voltage up until you start to get a leakage current indication. Then turn the room lights off. In the darkened room, CAREFULLY look and listen for the small telltale blue corona points in your wiring. Isolate the trouble spots and then correct the wiring connections as necessary.

It may be impossible to remove all stray leakage current indications. To compensate for this, just turn the voltage up to a desired test voltage value, and then note the leakage current indication on the panel meter. This number will become your background leakage current. This number will be subtracted from a leakage current reading taken with an actual component under test. For example, if you have a background of 10 micro Amps, and a component measures 35 micro Amps, your real leakage is 25 micro Amps. Stray leakage current readings become more of a problem as the test voltage is increased.

Testing Components

First of all: Switch to Safety!
Do not touch ANYTHING except the voltage control while you are testing.

Before you start testing, remind yourself what you're doing. THINK and LOOK before you touch any part of this tester. All components should be tested on an insulated table. Hook up the component, plug the tester in, increase the voltage to make your test, drop the voltage to zero, and then unplug the tester. Allow plenty of time for the filter capacitors to discharge before removing the component under test. While the current of this tester is limited to about 200-microAmps, a 10-kV jolt is decidedly unpleasant. It helps to use relatively small filter capacitors in this test instrument. The .001 uF capacitors will discharge quickly in a few seconds when the voltage is turned off. If you use relatively large capacitors, like .1 uF or so, the discharge time is much longer. This means that even though the instrument is turned off, touching the output electrode may still shock you. Use the output voltage meter as a guide for how long the filter capacitors have a charge remaining. Remember, the output meter can also fail, so don't depend on it entirely! If in doubt, use a shorting connection across the output electrodes to safely discharge any remaining voltage stored in the filter capacitors.

Diodes: to test PIV values for high voltage diodes apply reverse bias voltage (hook positive terminal to diode cathode, negative terminal to diode anode) until a small leakage current of one to two micro Amps is detected, then stop the test. The point at which current just starts to flow is the PIV value of the diode. Continuing beyond this point may damage the component. It is also possible to test relatively low voltage diodes in the range of 0 to 800 Volts or so. Since the front panel voltage meter has limited resolution, you may carefully use your digital multimeter as a voltage indicator. Many low cost meters have a maximum voltage rating of 1 kV or less. It is easy to exceed this value with the tester front panel control. The voice of experience says that if you apply excessive voltage to a multimeter and then hear a small "snap" sound from inside the meter case, your meter will probably require repair. Be careful.

Transistors: breakdown voltage on transistor specification sheets is usually stated several ways.[3] Some of these ways are:
BVcbo = Breakdown Voltage Collector to Base, with emitter terminal Open.
BVceo = Breakdown Voltage Collector to Emitter, with base terminal Open.
BVces = Breakdown Voltage Collector to Emitter, with base shorted to emitter.

Adjust the high voltage until leakage current just starts, and then stop the test. These test methods will also apply to PNP transistors by changing polarities.

BVcbo on NPN transistor

Hook positive terminal to Collector, negative terminal to Base, leave emitter terminal open.

BVceo on NPN transistor

Hook positive terminal to Collector, negative terminal to Emitter, leave base terminal open.

BVces on NPN transistor

Hook positive terminal to Collector, negative terminal to Emitter and Base.
Just like the test method of diodes, you can also test lower voltage transistors with a small digital meter if you are careful with the applied voltage levels.

Air dielectric capacitors: this type of capacitor is easy to test. Just hook up the voltage terminals from the tester to the capacitor under test. Slowly bring the voltage up until your test voltage occurs or until you hear a slight snap or crack, or see a small blue arc appear. Note the voltage, and immediately drop the voltage back to lower levels. Other components with air dielectric may be tested in this same manner. If you can't see or hear an arc, just watch the output leakage current meter on the high voltage tester. A rapid rise in leakage current is a sure sign of voltage breakdown on the component under test.

Vacuum capacitors: these types of capacitors test in a similar manner to the air dielectric types. However, when these components arc across inside, you will hear a small metallic "clink" sound. Just adjust the voltage until you are at your desired voltage range or until you hear a "clink" (whichever happens first), then back the test voltage off.

Test vacuum capacitors with the concentric plates fully meshed. I have purchased ham fest vacuum variables that tested fine with the plates partially out, but that failed with the plates more completely meshed. If you are looking for high voltage components, consider taking this tester along with you to the flea market, but leave it in your vehicle. If you find some interesting capacitors, retrieve your tester and perform the tests. Using this tester in this way will pay for itself very quickly by eliminating the purchase of defective components. Vacuum capacitors tend to be expensive. Why pay for a dud? This tester will also identify and sort out bad parts that you are going to sell.

Vacuum relays: test between normally open terminals until your test voltage is reached, the audible "clink" is heard, or a rise in leakage current is indicated.

High voltage bypass and coupling capacitors: these test by advancing voltage to the point where current starts to flow, note the test voltage, and then reduce voltage.

Vacuum tubes: Vacuum tubes are checked out of circuit. Hook up the tester electrodes to the two terminals you want to test on the tube. On triode vacuum tubes, I typically test the anode to grid breakdown voltage. I usually apply twice the tube's rated DC plate voltage and observe the leakage current reading. Comparing values from known good tubes is very helpful. On tetrodes or other tubes with more elements, just make several tests using the various tube terminals.

RF Power Amplifier Vacuum Tube Typical Leakage Current Measurements

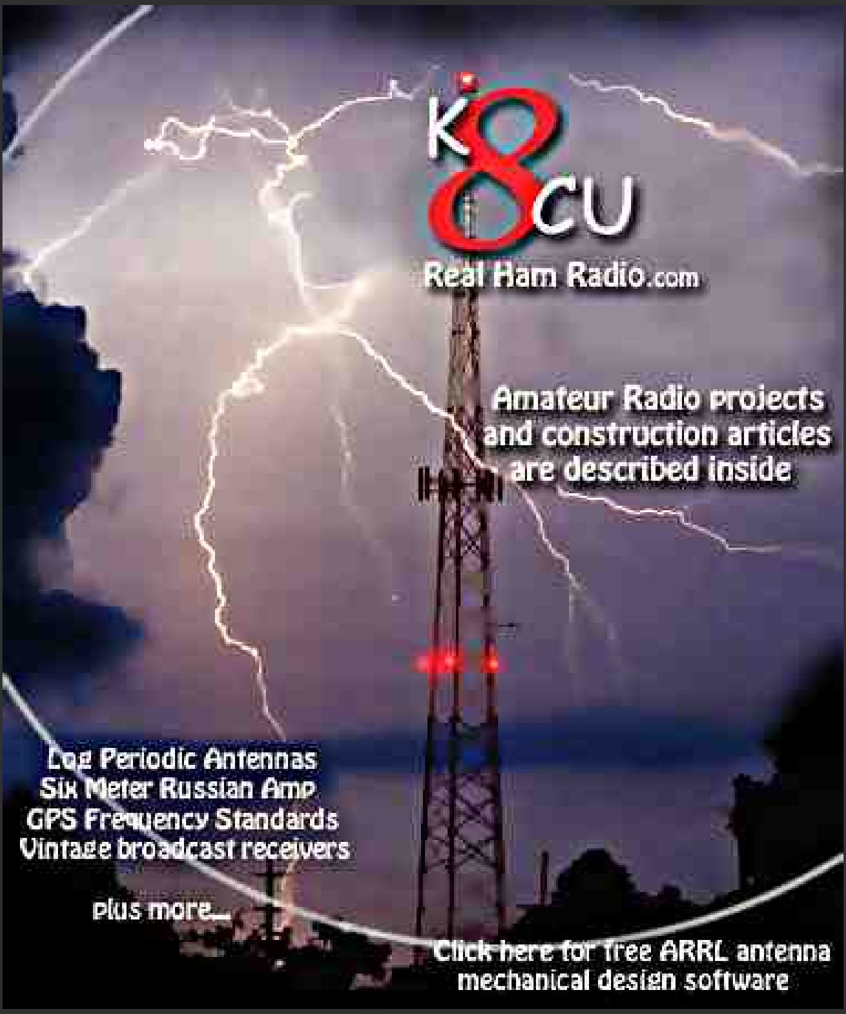
Russian GS35B, GS31B Anode to grid leakage current at about 4 kV = 6 micro Amps
Other tube types (4CX250B, 4CX800A) show similar numbers.

Significantly higher leakage current indicates a shorted tube. One high voltage short was only noticed when the tube was warm. This tube checked well when cold, but failed short after applying filament power for several minutes. When hooking up tubes outside of the normal amplifier, don't forget to provide adequate tube cooling air when running filament voltage only.

Testing AC components with this DC tester:

To test an AC rated component with this tester, just use this formula: AC voltage times 1.414 to get the effective DC voltage rating. For example, a 2 kV AC capacitor would require 2.8 kV DC to test.
73's K8CU

Notes
1. "Dielectric Breakdown and Arcing", ARRL Handbook, 1995, pg 10.14
2. Randy Henderson, WI5W,"Build a High-Voltage Power Supply at Low Cost" QEX, Jan/Feb 1998 Pg. 47-51.
3. Texas Instruments, Inc. "The Power Semiconductor Data Book for Design Engineers", First Edition. pg 1-30
4.Visit Richard Measures, AG6K's technical web site for additional design data on HV testers.


K8CU
Real Ham Radio.com
Amateur Radio projects and construction articles are described inside
Log Periodic Antennas
Six Meter Russian Amp
GPS Frequency Standards
Vintage broadcast receivers
plus more...
Click here for free ARRL antenna mechanical design software

Recollections of a Radio Receiver – The W6TC (SK) Adventure 1956 - 2009
A Collection of Observations, Remembrances, Letters and Notes

Format: E-Book on CD-ROM in Adobe Acrobat, 568pp, available from http://www.w6hht.com/

Author: Jay F. Helms W6HHT

Reviewer: Gerry O'Hara VE7GUH

What have Tom, Dick and Harry, evening meals, toothpicks, breadcrumbs, 'wiggle-wobble', chimneys, a 'two-hand dance', a 'perfect storm', 'scavenger hunting', moaning and even beauty contests to do with an amateur-built radio receiver, a 'WOW' factor and a 'crazy old coot' called 'Cros'? – the answer can be found by reading Recollections of a Radio Receiver… by Jay Helms, W6HHT. The book covers (almost) everything you would ever want to know about the 'HBR' series of amateur band receivers first conceived by Ted Crosby, W6TC (SK) in the mid-1950's.

RECOLLECTIONS of a RADIO RECEIVER
The W6TC (SK) HBR Adventure 1956-2009
Recollections of a Radio Receiver
The W6TC (SK) HBR Adventure 1956-2009 by Jay F. Helms W6HHT

My first encounter with an HBR receiver design was an 'HBR13C' that had been donated to the SPARC[1] radio museum in Coquitlam, BC in 2008, along with a large box of coils and volumes of paperwork relating to its design and construction. I was quite intrigued by this receiver, in terms of the circuitry, mechanical design - especially the plug-in coils - and the quality of workmanship, together with the use of an Eddystone slide rule dial (I am a bit of an 'Eddystone man') – so intrigued that I decided to write a short article on the HBR13C for the EUG website[2]. Soon after, Jay contacted me for permission to use my HBR article and others I had written as reference texts in a book he was preparing on the HBR – in return I unexpectedly received a copy of his book.

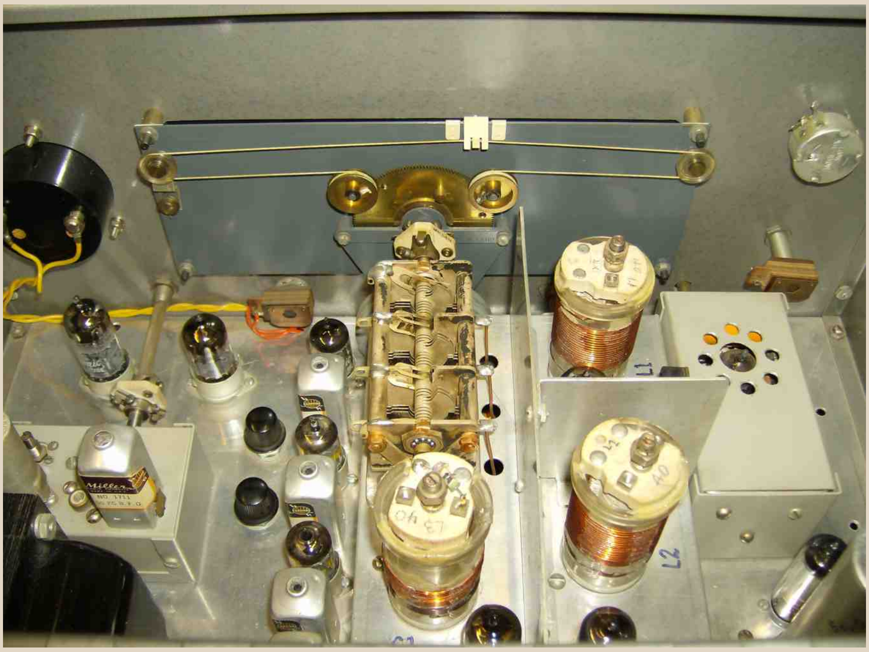
I have read many, many books on radio over the years, but this text is a very unusual and interesting tome and I must say, is quite different to what I was expecting before I opened the covers - yes, although the 'e-book' format has a good indexing and hyperlink system, and you can easily search for key words, I found it easier to read and cross-reference by printing it out from the Adobe Acrobat file. The human touch provided by the numerous personal letters presented in the book, often reproduced in original copy and re-typed for clarity or highlighting a particular issue, character descriptions, and interaction of the various 'players' in the story (because it is a story), numerous anecdotes, etc. is a great way of bringing the book to life - so much so that I actually got 'hooked'. Altogether it was a bit like reading a good novel, rather than a textbook that you dib in and out of. Not that you cannot use the book as a technical reference though, as there are all sorts of useful tidbits buried inside for anyone interested in any form of HF receiver construction, from mechanical and circuit design tips to coil winding information and even operating techniques.

[1] *Society for the Preservation of Antique Radio in Canada (http://www3.telus.net/radiomuseum/)*

[2] *Eddystone User Group (http://eddystoneusergroup.org.uk/).*

As an HBR 'newbie' I found many of the technical details very interesting, eg. that the front-end is designed to be regenerative to maximise sensitivity and increase the effective Q of the coils 'for free' (almost invariably, double superhet designs do their best to avoid regeneration in their front ends, and regenerative receivers are simple, low tube-count sets). However, this essential ingredient in the HBR design philosophy was sometimes lost, even by well-intentioned changes to the design by its constructors: the author even admits to a booboo here, where an overly-neat wiring effort in his HBR13C caused it to fail to regenerate properly because of stray pickup in the wiring loom affecting the AGC, resulting in reduced gain and below-par performance. I am sure that other details, eg. the use of a Hartley oscillator to improve stability, or the finer points of coil construction covered in Chapter 5, will mean even more to folks that have built an HBR, own one now (built by someone else), or are thinking of building one from scratch.

The book is divided into three parts: the first contains the major text, the second a series of HBR-specific references (reproduced in the book) and the third containing more general technical references pertaining to receiver design. Part 1 is preceded by notes on using the e-book format and a Prologue that provides a brief introduction to the book's subject, a lexicon of terminology and index of QST articles on the HBR. Chapter 1 opens the story with an introduction to the men who made the 'HBR adventure' happen, the reasons why it did, and the design concept of the receiver. Chapter 2 picks up on this concept, defining the design objective in four 'rules' and then moving onto the set's specifications and the expectations of those constructing the receiver. An interesting reference presented here is part of an RSGB booklet on the contemporaneous GRB Thornley (G2DAF) home-brew receiver design originating in the UK, together with comments on the different methodologies of the two designers. Chapter 3 is the start of the real technical 'meat' – here each of the HBR models is described in a series of 'thumbnails' along with the associated schematics and comments on differences between them, as well as details of some additional circuitry, such as slot and notch filters. However, the real in-depth discussion on the HBR circuitry and its evolutionary path from 1956 through to 1969 is dealt with in Chapter 4. Here, the regenerative front-end is highlighted, followed by the various circuit elements – mixer stages, IF stages, marker oscillators, AGC, filters, detectors, audio and power supply, concluding in a 'things not to do' section. The all-important plug-in coils are given the entirety of Chapter 5 (over 70 pages), which is illustrated by photographs and diagrams. Achieving receiver stability ('staying put' in 1950's radio jargon) was one of the holy grails of receiver construction in a world without low-cost synthesisers and digital electronics, and Chapter 6 is devoted entirely to this subject. Here you will find discussion on various factors that may affect receiver stability, from power supply issues through mechanical stability, circuit design, components, and thermal effects, including some very good discussion on the use of temperature compensation capacitors, and methods for testing receiver stability. For anyone constructing a receiver from scratch, alignment is one of those things that can be a daunting prospect.



Fear not, as Chapter 7 covers HBR alignment (which is actually quite straightforward) and also includes voltage check tables to help troubleshoot other problems in a newly-constructed or restored HBR. The HBR design is a bit different from the norm, eg. it is the first receiver I have seen that has a mixer gain control, and Chapter 8 provides the reader with some very useful tips on how to operate these rather unique sets. The main text concludes in Chapter 9 with a review of the 'development, 'repose' and 'revival' phases of the HBR story, stretching from 1956 through 2009 (only a year less than me) – an interesting contrast of the driving forces for building an HBR in the late-1950's and in the early-2000's is provided here and even some speculation into the future of the HBR design…

Part 2 includes a chapter on Builders Notes for the HBR14, HBR16, HBR11 and HBR13C, plus many other technical tidbits, notes on the author's 'HBRXX' receiver and details of the popular Eddystone 898 dial mechanism. Part 3 comprises a compendium of ARRL Handbook extracts, information on inductors, including the Meissner 'Radio Coils and Circuit Applications' instruction manual, and even cover and spine inserts if you decide to print the book (or sections of).

My only suggestion as to how this book could have been improved would be that although the text is extremely detailed, there are many times when a diagram or photo would have helped enormously in visualizing what is being described – especially if you do not happen to have an HBR sitting beside you. However, although this addition would enhance the readability of certain parts of the text, their absence does not detract from the overall value of the material presented.

In conclusion, this is no 'brain dump', no dry technical treatise on a long-forgotten homebrew amateur receiver design, but is a real story, about real people that were dedicated to achieving the very best receiver performance they could with the proven technology of the time. What is more, Ted Crosby's design philosophy included that any Tom, Dick or Harry should be able to replicate his design and achieve similar performance. To this end Ted spent much of his spare time helping others by corresponding with constructors and by producing simplified and expandable versions of his receiver design. The author must be congratulated for being able to thread the human story, the design philosophy and the vast amount of technical information presented into a coherent, readable book. It is not only useful as a historic piece about the development of amateur radio in the mid-twentieth century, but also as a great technical reference and compendium of information for the HBR constructor, owner, operator and anyone interested in constructing and operating radio receiving equipment – if you are one of these folks, then this is one of the best-value $10 you will ever spend.

Best 73's ! Gerry O'Hara, G8GUH/VE7GUH

DX NEWS From the Web

5P15, DENMARK (Special Event/IOTA)

Look for special event station 5P15COP from Zealand Island (EU-029) to be active between December 7-18th. Activity is taking place during the big United Nations "Copenhagen Climate Change Conference" http://www.cop15.dk

Operators would like to "invite all radio amateurs worldwide to show their concern and care about the environment and climate, by contacting this special event station." Operations will be on 160-6 meters using CW, SSB and the Digital modes. QSL via OZ5BAL, direct or by the Bureau. For more details about the project, QSL card and awards available, please visit: http://at www.5p15cop.dk

FO/A, AUSTRAL ISLANDS

German operators Wulf/DL1AWI, Peter/DL3APO and Mat/DL5XU will be active as FO/homecall from Raivavae Island (OC-114, DIFO FO-122, WLOTA L-2581) in the Austral Islands group between January 18th and February 5th. Their focus will be mainly the lower bands 160-30 meters, but will work some higher bands on SSB and RTTY. QSL via their home callsigns, direct or by the Bureau.

J3, GRENADA (NA-024)

Operators Colin/G3VCQ and Sharon/M3VCQ will once again be active as J38CW and J38SW from Beru between March 11-25th. Activity will be on all HF bands and modes. All QSLs are via G3VCQ, direct or by the bureau.

J6, ST. LUCIA

Bill, K9HZ, will once again be active as J68HZ from Labrelotte Bay, Castries, St. Lucia (NA-108, WLOTA L-1336) between now and December 5th. Activity will be on 80/40/20 meters using CW and SSB. Suggested frequencies are: CW - 3550, 7050 and 14050 kHz / SSB - 3770, 7155 and 14155 kHz

He also mentions to watch 40 meters between 2000-2400z daily. Operations from other local islands are possible. QSL via his home callsign.

J6, ST. LUCIA

Scott, NE1RD, will be active as J6/homecall between February 2-10th (2010). Activity will be on all HF bands and modes. QSL via his home callsign, direct or by the Bureau. Logs will be uploaded to LoTW.

J6, ST. LUCIA

Members of the "Buddies in the Caribbean" DXpedition group which specializes in 100 watt or less low power radios and the Buddipole portable antenna system is off again to a new DXpedition site on February 2-11th, 2010. This is an annual effort to demonstrate "ultra- lite" DXpeditioning into magnificent "vista" locations, operate a field portable battery-only radio with backpackable, lightweight antennas and most of all "have fun!"

The nine operators from eight states will have fixed operations from a cliff-top villa and portable operations from various points on the island using CW, SSB, and the Digital modes.

Operators mentioned are: Budd/W3FF, Chris/W6HFP, Scott/NE1RD, Dan/WZ1P, Steve/WG0AT, Mike/KC4VG, Guy/N7UN, Paul/KB9AVO and Wey/K8EAB. Licensing is not yet complete, but each operator is expected to receive their own callsign. QSL via LoTW, eQSL, or mail to operator's home callsign (SASE required). For more details, see:

http://sites.google.com/site/caribbeanbuddies/home

http://caribbeanbuddies.blogspot.com/

J8, ST. VINCENT

George, K2CM, will be active from the Island of Bequia, in The Grenadines (NA-025), between January 8th and February 12th (2010). Callsign was not provided. Activity will be on 20 meters using CW and SSB, and maybe 40 meters CW. QSL by the Bureau or direct (SASE/SAE) to K2CM.

JD1/O, OGASAWARA

OPDX was informed by Harry/JG7PSJ that Makoto/JI5RPT and he will once again be active from Chichijima Island (AS-031) between Sunday, December 27th, and Friday, January 1st (2010). Their callsigns will be JD1BLY (JI5RPT) and JD1BMH(JG7PSJ). Activity will be on all bands 160-10 meters using CW, SSB and RTTY. QSL via the Bureau to the JD1 callsigns or direct to their home callsigns. Web pages at: http://www.ji5rpt.com/jd1 http://sapphire.es.tohoku.ac.jp/jd1bmh

PB500, THE NETHERLANDS (Special Event)

Look for special event station PB500GT to be active between November 28th and December 13th. Activity is to celebrate the 500th anniversary of the "GREAT TOWER of BREDA" (in Dutch Grote Toren). Operators will operate at a height of 65m from the Great Toren. This Great Tower is located in the middle of the city. Operations will be on 80/40/20/2 meters using SSB and the Digital modes. QSL Manager is Willem, PA1WLB. For more details about the tower, see: http://www.torenbreda.nl

S2, BANGLADESH (IOTA DXpedition)

Operators Tutul/S21RC, Manjurul/S21AM, Sohel/S21S and Aminul/S21D are preparing a DXpedition in February 2010 to St. Martin's Island (AS-127) located in Chittagong Region Group. Dates mentioned are February 21-25th. QSL Manager will be EB7DX. More details will be forthcoming.

ST26, SUDAN

Look for the special callsign ST26ASC to be used between January 22-28th (2010). This activity coincides with the 26th Arab Scouts Conference from Khartoum, Sudan. QSL Manager will be ST2M.

TJ, CAMEROON

Lionel, F5PSA, currently active as TJ3SL, will be here until around December 15th. His activity has been sporadic, but he is trying to be active daily, propagation permitting. Operations have been mainly 20 and 17 meters usually between 0930-1700z. QSL via F5PSA.

V3, BELIZE

Wil, PA0WWV, will be active as V31WV from Sarteneja (northern Belize) between now and December 20th. Activity will be on CW and SSB. QSL direct only with 2 USDs plus SAE (NO IRCs).

VP2M, MONTSERRAT

Mike, W1USN, will once again be active as VP2MPR between February 28th and March 13th (2010). Mike will work mainly SSB and PSK31. Bob, AA1M, will also return to Montserrat and will operate mostly CW as VP2MPL between March 6-11th. QSL both operators via their home callsigns.

VU, INDIA (News)

OPDX was informed by Prasad, VU2PTT, that Gopal Madhavan, VU2GMN, who is the President of ARSI - the IARU recognized national organization of India, is reporting he spoke with the "Wireless Planning & Coordination Wing (WPC), India's Ministry of Communications and Inform- ation Technology Department of Telecommunications, and they have confirmed that the extra bandwidth (on 40m) has been officially released to VU radio amateurs based on the petitions given by ARSI on April 15, 2009, soon after the band was to be released as per agreement in WRC2003. VU hams can now officially use that extra bandwidth. Gopal also mentioned, "They have also confirmed that the other requests made by ARSI regarding 10 MHz and 50 MHz are also under consideration, so please wait for further news."

SM3CVM Presents :

SM3CVM DX-kalender

THE DXCALENDAR

December 2009

- 2/12 BRITISH VIRGIN IS.; VP2V/DL7VOG NA-023

from Anegada Island. Activity is on all bands using mostly CW and RTTY. QSL to home call.

- 3/12 TURKS & CAICOS IS.; VP5/homecall NA-002

from Providenciales by W7VV, VE7XF and possibly some other operators.Activity will include the CQWW DX CW Contest (November 28-29th) as a Multi-? entry and possibly a special callsign (TBA). QSL route TBA. Operators will be active before and after the contest on all bands (160-6 meters) and modes signing VP5/homecall. QSL via their home callsigns.

- 6/12 CHESTERFIELD IS.; TX3A

by AA7JV and HA7RY. The TX3A license for the Chesterfield Dxpedition has been extended. Their priorities will be 160, 80 and 40 meters, in that order. They will be active on the higher bands the rest of the time. The operators will use the same antenna that they used on Mellish Reef, but they have developed a new RX antenna, which they hope will improve their RX capabilities. QSL via HA7RY. Mailing direct -Please include 2 USDs with every direct QSL request for up to three cards per envelope. If you send International Reply Coupons (IRC), please make sure that it is not expired or is not about to expire. DO NOT SEND IRCs that are valid only until end of 2009! Cards are likely to be posted only early 2010. Mailing address: Tamas Pekarik, Alagi ut 15, H-2151 Fot, HUNGARY. * The preferred way is using the "Online QSL Request Service" (OQRS) on their Web site which they will launch once the DXpedition is over. You can use that form to request your direct QSL and cover the costs of sending the QSL card to you direct by using PayPal. They request a minimum of 5 USDs or 4 EUROs for this service. * Bureau: They will launch an "Online QSL Request Service" (OQRS) on their Web site as soon as the expedition is over. If you want to receive your QSL via the bureau, please use that form to request the card. They will check your QSOs against the log and send your card to you via the bureau. This method will allow them faster processing, helps them protect the environment and you will receive your TX3A card faster. If you request your bureau card online, please do NOT request a direct card and do NOT send us your QSL card. More detailed information is available on their new Web page at http://www.TX3A.com/

- 7/12 VIETNAM; XV2RZ and XV2JR

by OH4MDY and OH3JR. Activity is on all HF bands using CW, SSB and RTTY. QSL both calls direct via OH4MDY.

- ***31/12 JAPAN; 8J7M AS-007***

from Honshu Island. QSL via bureau.

- 31/12 HONG KONG; VR2009EAG

special event to promote the Hong Kong 2009 East Asia Games. Operations will be primarily on the HF bands from 40-10 meters and VHF on 6 meters. The modes used will be primarily SSB, RTTY, PSK31 and SSTV. QSL Manager VR2XMT: Charlie Ho, PO Box 900, Fanling Post Office, Hong Kong.

- 2009 WEST MALAYSIA; 9M2TI

by EA4ATI to work in Kuala Lumpur for the whole year 2009. He will work with 400 watts and a vertical in CW and SSB on 40m/20m/15m/10m. He also plans to take part in all major contests (if possible from stations better equipped). QSL via EA4ATI.

- 20/2 2010 ANTARCTICA; KC4USV AN-011

from McMurdo Station by K7MT. He will be on the HF bands on 14243 kHz, Sundays at 0000z. He will also be active on PSK-31 (on 14070 kHz) and CW (14043 kHz) if time permits. He has also mentioned that he will take an Arrow II antenna and his Kenwood TH-7 to

work the Amateur Satellites into VK and ZL land. He also has plans to be on APRS VHF/HF with a Kam Plus, so you might just see him driving around on the Ross Ice Sea as K7MT-7 on APRS. QSL via K1IED. Visit his home page for some interesting pictures at http://www.mt.net/~k7mt/

- May 2010 PHILIPPINES; DU9/DL5SDF OC-130

expects to be QRV from Mindanao Island. He operates CW only. QSL direct to Hans Bohnet, Purok 5, Lower Bon-Bon, Libertad, Butuan City 8600, Philippines or via the DARC bureau to DL5SDF (bureau card requests will have to wait until June 2010, when he will go back to Germany).

- 12/7 2010 SOUTH AFRICA; ZS1ØWCS

The next FIFA Soccer World Cup will take place in South Africa in 2010. QSL cards should be sent via the ZS bureau. If you want to send direct please use following address: SARL, PO Box 1721, Strubensvallei 1735, Republic of South Africa.

- 31/10 2010 CANADA; VA7PX NA-075

From Mayne Island. QSL via VE7AXU via bureau or direct.

- 2010 MARSHALL IS.; V73NS OC-028

from the Kwajalein atoll by WD8CRT, who will have to work here for two years starting on Jan 5, 2009. He will work mostly in CW on 160-6m. QSL via bureau or direct to Neil Schwanitz, PO Box 8341, APO, AP 96557, USA. His website is http://www.qsl.net/v73ns/

- 31/3 2011 ANTARCTICA; VU3BPZ and AT1ØBP

from the Maitri Base (WAP IND-03) by VU3BPZ. Updates and more details are expected on the WAP Web site at http://www.waponline.it/

- July 2011 FRENCH POLYNESIA; FO

by F5PHW. Since he is there for work, his on air activities will be limited, but he will try to operate as much as possible. If he lives in a house, Phil intends to be active on all HF bands from 80-10 meters mainly on CW and RTTY (possibly some PSK31) with very little SSB using only 100 watts. His antennas from the house QTH will be: 80-40m - Inverted V + HF6VX (GP), 30m - HF6VX, 20-10m - HF6VX + Spiderbeam (not sure). However, if he lives in an apartment the antenna may only be the HF6VX. QSL via F8BPN, by the Bureau or direct.

1/12 - 31/1 CANADA; VG7W

The Vancouver Olympics Amateur Radio Group (VOARG) will activate three special calls to celebrate the Olympic Winter Games and Paralympics which will take place in Vancouver/British Columbia in Feb/March 2010. This is the second special call. A website will go online soon, all logs will be uploaded to the LoTW. QSL cards can be sent via bureau or direct to: VOARG, 9362-206A St, Langley/BC, V1M 2W6, Canada.

2/12 - 5/12 NEW ZEALAND; ZL

from Auckland (logistics, possible activation of some IOTA group) by IK1PMR, K2LEO/PA3LEO, PA0BWL, AA4NN, OE2SNL, DJ5IW and OZ1IKY are planning a DXpedition to three semi-rare entities (and possibly some other operations) in the Pacific between November 11th and December 13th. Callsigns have not been announced yet. Focus will be on the lower bands, but activity is planned for 160-10 meters using CW, SSB and the Digital modes. The team will use three Elecraft K2/100 with DSP and amps. For more information and updates, watch: http://www.ik1pmr.com/plans/a3/index.php?s=intro/

2/12 - 14/12 VIRGIN IS.; K2V NA-106

from Saint Croix Island by K9WZB and K7WZB as a special "Christmas Festival" event. Activity will be on all bands 160-6 meters. They will be monitoring 6 meters most of the time for openings to the U.S. and Europe. Operations will be on SSB, RTTY, CW and PSK31. See QRZ.com K2V for more information. QSL direct only via K9WZB (No Bureau QSLs); SAE outside of USA with USDs or 2 Euros...Please no IRCs. A special QSL will be available after their return. Log updates daily at: http://www.clublog.org/logsearch/K2V/

3/12 - 8/12 CAMBODIA; XU7UFT

by F6AXX and F6HBR. Activity will be on the HF bands, but CW only. QSL via F6AXX, by the Bureau or direct (w/SAE and return postage). Look for direct QSLs to be answered after January 15th, 2010.

4/12 - 16/12 BRITISH VIRGIN IS.; VP2V/W3HQ

from Virgin Gorda. Activity will be CW only. Bands will be mainly 160 and 10 meters on weekends, and 30/17/12 meters during the week. QSL via W3HQ. Skeds are welcomed (2 way QRP skeds are preferred). His E-mail address is: w3hq@live.com

5/12 - 13/12 S. COOK IS.; E5

by IK1PMR, K2LEO/PA3LEO, PA0BWL, AA4NN, OE2SNL, DJ5IW and OZ1IKY are planning a DXpedition to three semi-rare entities (and possibly some other operations) in the Pacific between November 11th and December 13th. Callsigns have not been announced yet. Focus will be on the lower bands, but activity is planned for 160-10 meters using CW, SSB and the Digital modes. The team will use three Elecraft K2/100 with DSP and amps. For more information and updates, watch: http://www.ik1pmr.com/plans/a3/index.php?s=intro/

6/12 - 12/12 BERMUDA; VP9/AA1AC

from the Hamilton Parish. QSL via to his home callsign, direct or via the bureau.

10/12 - 31/12 THE GAMBIA; C5

SM1TDE is planning an operation. More details should be forthcoming.

13/12 - 17/12 SINGAPORE: 9V

by IK1PMR, K2LEO/PA3LEO, PA0BWL, AA4NN, OE2SNL, DJ5IW and OZ1IKY are planning a DXpedition to three semi-rare entities (and possibly some other operations) in the Pacific between November 11th and December 13th. Callsigns have not been announced yet. Focus will be on the lower bands, but activity is planned for 160-10 meters using CW, SSB and the Digital modes. The team will use three Elecraft K2/100 with DSP and amps. For more information and updates, watch: http://www.ik1pmr.com/plans/a3/index.php?s=intro/

17/12 - 6/1 HAWAII; N1CE/KH6 OC-019

from Oahu Island. He states that his activity will be mobile using a Kenwood TS-480 w/100 watts, and it will be SSB only on this trip. QSL only direct to his home callsign.

28/12 - 3/1 MADAGASCAR; 5R8HX AF-013
by G4OHX. Activity will be mainly CW. QSL via his home callsign direct only.

29/12 - 4/1 AUSTRALIA; VK6 OC-211
Robertson Island, Houtman Abrolhos. VK6YS is in the process of organizing an IOTA expedition. QSL via VK4AAR. For the time being the team includes VK6YS VK6NI, but they are looking for another two operators to share the costs. Please contact Wally (vk6ys@iinet.net.au) if interested. The Abrolhos were activated for the first and only time by VK9XZ/6 back in January 1996.

4/1 - 17/1 SOUTH AFRICA; ZS5/G4OHX
Activity will be mainly CW. QSL via his home callsign direct only.

5/1 - 26/1 ARUBA; P40C or P40CG
by W2CG. Activity will be primarily CW/RTTY on 80-6 meters, usually between 1200-1400z and 2000-2400z, other times as schedule permits. QSL is via the LoTW (prefers), or via his home callsign, by the Bureau or direct (U.S. stations, if not LoTW then SASE via CBA).

8/1 - 11/1 EASTER I.; CE0/YV5IAL
This will be a QRP, portable, holiday style operation. Activity will be on PSK31 digital mode on 14070.15 kHz from 2200-0100z, and occasionally on 40/30/15 meters. QSL via his home callsign.

10/1 - 24/1 SOUTH SHETLAND IS; XR9JA AN-010
from Arturo Prat-Greenwich Island-South Shetland archipelago, WW Loc. GC07FQ) by XQ5CIE, CE6UFF, F6DXE and CE5COX. Activity will be on 160-6 meters using CW, SSB, PSK31 and the AO-51 Satellite. QSL via CE5JA. For more information, go to http://www.ce5ja.cl/

21/1 - 28/1 VANUATU; YJ0XX, YJ0DX and YJ0MM OC-035
from Efate Island by a Croatian team of 9A4DU, 9A6DX and 9A8MM.
Activity will be on 160-10 meters using CW, SSB and RTTY. QSL Manager will be 9A8MM. More details and updates are available at: http://vanuatu.rkp.hr/

21/1 - 21/3 UGANDA; 5X1NH
by G3RWF. Activity will be on the HF bands. He prefers CW and likes the Digital modes (PSK and RTTY), but may work SSB whenever signals are good enough. QSL via his home callsign.

February COCOS I.; TI9
TI2HMG is trying to put together another operation to TI9 which will take place in February of 2010. Look for updates and details on: http://www.qsl.net/ti2hmg/cocos.htm

4/2 - 10/2 HAWAII; N7I
from Honolulu (Oahu Island HI-008S) by WL7MY and KL7JR. Activity is in celebration of the 16th anniversary of the U.S. Islands Awards program. Main frequency will be 28460 or 14260 kHz. They use a TS-50 and a vertical on mag mount. QSL Manager is KL7JR.
For additional info: http://www.usislands.org/

10/2 - 21/10 KENYA; 5Z0H AF-040 and AF-067
from Lamu Island and Wasini Island by 5Z4ES, IK8TEO, IK8UHA and IK8VRH are planning to be in Kenya and activate two IOTA islands. QSL via LoTW, by the Bureau or direct to IK8VRH: P.O. Box 173, I-80016 Marano (NA), Italy. Visit the 5Z4H Web page at http://5z4h.sitonline.it/

17/2 - 23/2 BELIZE; V31RR

by AA4NC. Activity will be on the HF bands including 30/17/12m using CW, SSB and RTTY. His activity will also include the ARRL DX CW Contest (February 20-21st) as a Single-Op entry. QSL via his home callsign or LoTW.

18/2 - 22/2 NICARAGUA; YN2GY

by K9GY during the 2010 ARRL DX CW Contest (February 20-21st). Outside of the contest, look for CW activity on 30/17/12 meters. QSL via LoTW or to his home callsign, direct or by the bureau.

20/2 - 27/2 CHRISTMAS I; VK9X/G6AY OC-002

by G3SWH and G3RTE. They will operate CW only on 80-10 metres (no activity on 160 metres). Propagation permitting, they plan to have two stations on the air for as many hours every day as is possible. QSL via G3SWH, direct or bureau (requests for bureau cards can be submitted by using the relevant form on. Please visit http://www.g3swh.org.uk/christmas-island.html for further information.

5/3 - 12/3 SAINT MARTIN; FS/KT8X

This will be a holiday style operation with an emphasis on the 30/17/12 meter bands using CW, SSB and RTTY. However, he does plan to enter the ARRL DX SSB Contest as a Single-Op entry. QSL route will be the "Logbook of The World" (LoTW).

28/3 - 31/3 OGASAWARA; JD1BNN

by JF3MYU. He is expected to be there with three other operators
who will be staying long (hopefully more details will be forthcoming). He will be focused on the WARC bands. QSL is "OK" via JARL Bureau, but write JD1BNN on your QSL (so it can be sorted easily). Also, you can receive his QSL direct if you send your QSL to his address: Kirk Itaya, 5-1-35, Daikaidori, KOBE, 652-0803 JAPAN. Please enclose SAE plus sufficient return postage. For NA, SA, EU and AF include one new IRC or 2 USDs. For Asia, one IRC or 1 USD.

10/4 - 18/4 VIET NAM; 3W6C AS-185

from Con Co Island by HB9BXE and a large group of operators from Switzerland, Germany and Vietnam will be running four stations 24 hours a day. Further information is expected in due course. For the time being, please visit http://www.3w6c.qrv.ch/

19/5 - 23/5 ST. PIERRE & MIQUELON; TO2FH

by a team of Brazilian operators. More details are forthcoming.

IOTA-frequencies

CW: 28040, 24920, 21040, 18098, 14040, 10115, 7030 and 3530.
SSB: 28560, 28460, 24950, 21260, 18128, 14260, 7055 and 3755.
The frequencies are NOT exclusive to IOTA!
IOTA net Saturdays at 1300z on 14260 and Sundays at 1300z on 21260!

BACK TO 1936 !
A Portable Duplex Radio-Telephone

By W. B. Lewis, Ph.D., and C. J. Milner, B.A.e

The duplex radio-telephone set up ready for use

***SUMMARY**.—A practical system of duplex radio-telephony on ultra-short waves is described in which each set is made alternately transmitter and receiver at a supersonic frequency. The interrupted oscillation provides super-regenerative amplification which is so great that no additional amplification is required, and the sets are therefore simple and may be light in weight. The quench frequency must be selected according to the distance between the sets. Telephony transmission is effected by modulation of the quench oscillator. Since true duplex communication is obtained without appreciable "side tone," one or both sets may be directly connected to an ordinary telephone line.*

The theory of the super-regenerative receiver is reviewed and also some practical aspects of the propagation of ultra-short waves.

Attention is directed to the remarkable facility of synchronisation of the quench frequencies even when signals are weak.

THE system to be described provides in the strictest sense a duplex radio-telephone; that is to say, conversation may pass in both directions at the same time. No manual or voice-operated switches or cut-outs are employed. Further, the radio-telephone may be directly connected at one or both ends to ordinary line telephone circuits. "Subscribers" on these telephone circuits might well be unaware that any radio link was in use.

Introduction
(a) Other Duplex systems

The great problem of duplex radio-telephony is to prevent the sensitive receiver from being swamped by the local transmitter. Apart from the obvious methods of spacing the receiving apparatus and the transmitting apparatus as far apart as possible, and of using very different wavelengths for the two directions of communication, it appears that two solutions have been put forward. The first is attributed to C. E. Franklin.1 In this method the local transmitter is made to act as the oscillator of a super-heterodyne receiver, the supersonic beat frequency between this local oscillation and the received signal being then amplified and detected in the usual way. In the second method each apparatus is made alternately transmitter and receiver at a supersonic frequency. The receiver may then employ this interrupted oscillation for obtaining super-regenerative amplification. This principle is adopted in the system to be described.

The idea of using a super-regenerative receiver for simultaneous transmission and reception seems to have been put forward first in May, 1928, by G. A. Beauvais.2 Later in the same year a patent was taken out by Lorenz A.G.,3 and in 1931 a similar system was patented by the Marconi Company.4 These early systems appear not to have been ideal. In the Lorenz system there seems to have been difficulty in maintaining synchronism between the quench oscillators at the two sets. From our experiments we expect the Marconi system was found to be liable to distortion and background noise.

(b) The Modulated-Quench Duplex System

The apparatus consists essentially of a super-regenerative receiver employing a relatively powerful radio-frequency oscillator quenched at a supersonic frequency by a separate oscillator. The two sets in communication are exactly similar, and the quench frequencies are synchronised. With a suitable circuit it is found that the two quench frequencies lock to one another in a remarkably stable manner. For example, a signal produced by radiating a quenched oscillation of ⅛ watt average power on 3 metres wavelength from a $\lambda/2$ aerial is sufficiently strong when received on a $\lambda/2$ aerial at a distance of 25 miles, to lock the quench frequency of a similar oscillator with sufficient stability for practical purposes.

When the relative phase of the two synchronised quench oscillations is suitably adjusted, telephonic communication may be established by a very slight modulation of the quench oscillator.

Before discussing the detailed working of this system, it seems advisable to review briefly the theory of the super-regenerative receiver, 5, 6, 7, as no very satisfactory account appears to have been published yet in English.

The Theory of the Super-Regenerative Receiver

The super-regenerative receiver consists essentially of a radio-frequency oscillator, the oscillation of which is periodically interrupted or quenched at some high-audible or super-sonic frequency. The oscillation is then allowed to build up again, and it is in this building-up process that the amplification occurs.

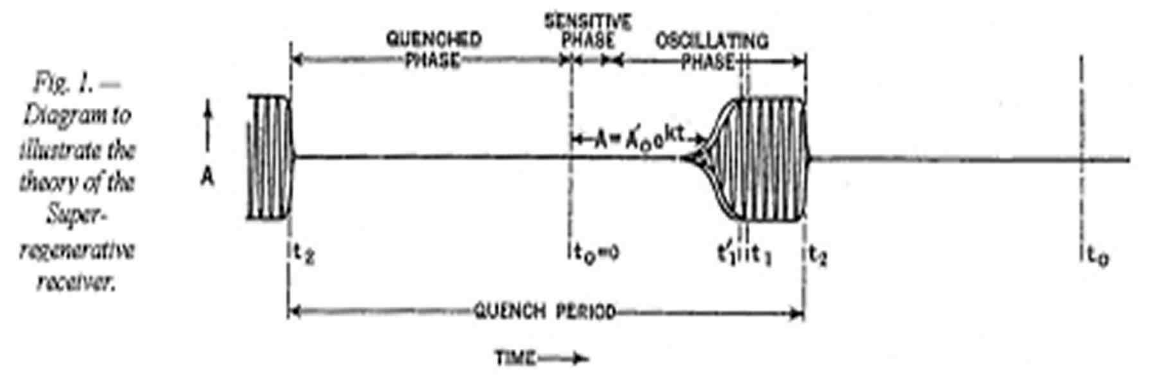


Fig. 1. —Diagram to illustrate the theory of the Super-regenerative receiver.

In one cycle of this quenching process three consecutive states may be recognised, which may conveniently be termed the “quenched," "negatively damped" (or sensitive), and "oscillating" phases. In the "quenched" phase the oscillation dies to zero or more strictly to a residual E.M.F. in the circuit which is only that due to thermal agitation, shot effect, etc., and the received signal. This quenched phase is followed by the relatively short "sensitive" phase, in which an oscillation builds up increasing exponentially with time, and the amplitude may therefore be written as A_0e^{kt}. A_0 therefore comprises the random agitation E.M.F. together with the E.M.F. produced by the received signal. When in course of time ekt has reached the value 10 or 100, the received signal is such a small part of the oscillation that any modulation of the received signal would be practically without effect on the increasing oscillation, so we may say that we have passed out of the sensitive phase into the oscillating phase. But it is important to note that the oscillation amplitude is still at any time proportional to A_0, the small received signal and agitation E.M.F. A limit is however reached when A0ekt is the maximum oscillation which the valve will maintain, Amax say. Clearly the greater A_0 the sooner this limit is reached and hence the oscillation persists at the maximum for a longer time, assuming that it is cut off at a definite phase of the quench cycle corresponding to the onset of the quenched phase. This is illustrated in Fig. 1. It should be noted that, if the function A_0e^{kt} is plotted against time for different values of A0, all the curves appear of the same shape but displaced on the time scale. The same proportional change of A0 produces the same displacement on the timescale whatever the absolute value of A_0.

Referring to Fig. 1, the increase of A_0 to A_0' (of the order of 10-6 cm. on the vertical scale of the diagram, and therefore quite invisible) due to change of amplitude of the signal reduces the time t1, at which the oscillation reaches its maximum, to the time t1'.

Quantitatively, $t1 = 1/k \log A_0 + \text{constant}$,

and $t1' = 1/k \log A_0' + \text{constant}$.

Therefore $t1 - t1' = 1/k \log A_0/A_0'$

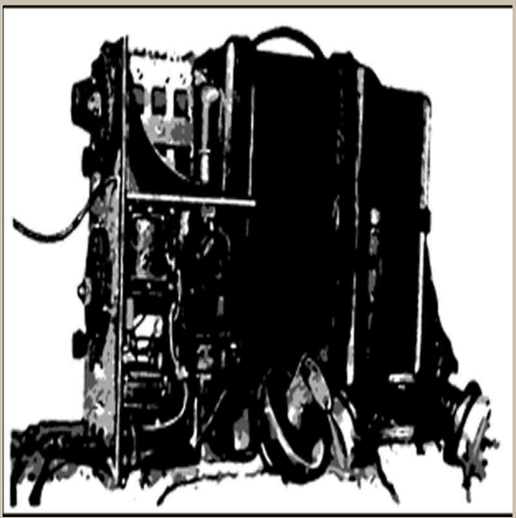
Also the duration of the full oscillation may be written as $t2 - t1 = 1/k \log A_0 + \text{constant}$. This expression contains the explanation of the remarkable automatic volume control action of the super-regenerative receiver.[5] For if the current in the anode circuit (i.e. through the phones) changes by δi in passing from the sensitive phase to the full oscillating condition, then the total current through the phones may be written as $n/k \log A_0 + \text{constant}$, where n=quench frequency. The constant current component produces no sound in the phones, the other component is proportional to log A0. If the received signal is so large that the residual agitation E.M.F. is negligible in comparison, A_0 is proportional to the amplitude of the received signal. If this received signal is modulated we may have $A_0 = A_S (1 + m.\sin \omega t)$ and the current through the phones due to the signal is $n\delta/k \log A_S . (1+m.\sin \omega t) = n\delta/k \log A_S$ (which is a constant) $+ n\delta/k \log (1 + m.\sin \omega t)$. The component due to the modulation is seen to be $n\delta/k \log (1 + m . \sin \omega t)$, which is independent of AS, the absolute signal strength, but depends only on the depth of modulation m. Expressed another way, the loudness of the received modulation depends only on the depth of modulation and not at all on the amplitude of the received signal, and this is true provided that the amplitude of the received signal is considerably greater than the residual agitation E.M.F. in the receiving circuit. It may be noted that this perfect automatic volume control is necessarily accompanied by a slight distortion on normally modulated signals, for $kin\delta \log (1 + m . \sin \omega t)$ may be expanded as

$n\delta/k (m.\sin.\omega t\ m^2/2.\sin^2 \omega t + ... + ...)$ if m is not greater than ½ ($m \leq ½$), then the distortion terms are

$\leq m/8(1-\cos 2 \omega t)$.

It is only on short wavelengths that the behaviour of a super-regenerative receiver is in accord with this theory. On longer wavelengths (above about 300 metres) the oscillation does not build up to the full value during the quench cycle, unless the quench frequency is in the audible range. If the oscillation does not build up fully, the automatic volume control action is impaired.

It is characteristic of the super-regenerative receiver that, in the absence of a signal, a rushing noise is heard in the phones. This is clearly due to the oscillation building up from the random disturbance in the circuit. Quite a weak signal of the correct frequency is however sufficient to swamp this disturbance and thus to quieten the background. It will be realised that this effect is due to the automatic volume control action. An exactly similar effect is commonly observed with modern broadcast receivers employing automatic volume control; in the absence of a signal the receiver is most sensitive and brings in background noises. Under some circumstances it might be desirable to apply a system of quiet automatic volume control to reduce the noise in the absence of a signal. Any rational attempt to reduce the background noise when receiving a signal must aim at reducing the random E.M.F. in the oscillatory circuit relatively to the received signal.It is to be noted that no receiver can be more sensitive than a super-regenerative receiver unless the random disturbance in its first circuit is less than in that of the super-regenerative receiver. Factors affecting the output of the super-regenerative receiver must be sharply distinguished from those affecting its sensitivity. The output power is proportional only to the change of power dissipated in the anode load between the oscillating and the sensitive conditions, and to the number of interruptions per second (the quench frequency).



A close-up view of the complete set

It is not yet clear how the effective random disturbance in the oscillatory circuit of a super-regenerative receiver depends on the maximum power which may be developed. But it appears that the disturbance does not increase very rapidly with the oscillator power: a powerful oscillator may still be a sensitive receiver (This is required for satisfactory duplex working.).

From these considerations there is no reasonwhy any audio-frequency amplifier should follow a super-regenerative receiver. It may however be more economical to use a low-power oscillator, followed by an audio-frequency amplifier, than to use a more powerful oscillator.

The amplification provided by a super-regenerative amplifier may be phenomenal, for example a quenched oscillator dissipating from 1 to 4 watts provides amplification of the order of 5.108 expressed as the ratio of the audio-frequency output power to the radio-frequency input power, for a wavelength of 3 metres. It should be noted that this amplification is obtained from a single triode valve.

Mode of Operation of the Modulated Quench Duplex System

It has already been mentioned that the quench oscillators of the two sets are adjusted to a common frequency. This frequency and the phase relation between the two quench cycles are so adjusted that the pulse transmitted by one set reaches the other in its sensitive phase, and that the oscillation pulse which then builds up in this receiver and is transmitted, reaches the first set in its sensitive phase.

It will be clear that the adjustment will depend on the distance between the two sets, owing to the time taken by the pulses in transmission over the distance. For example, the performance of two actual sets may be quoted. At distances up to 200 yards any quench frequency in the tuning range, 50 to 100 kc/s., might be used. At from 200 yards to ¼ mile, only the lower quench frequencies could be used. For distances of ¼ to ½ mile a high quench frequency is most suitable. For still greater distances the correct frequency must be found by trial. Having selected the quench frequency according to these rules, satisfactory duplex working may be achieved by adjusting quench oscillator anode supply, and by a fine adjustment made at one set only of the quench oscillator tuning, keeping within the range over which the quench frequencies remain locked.

When the theory of operation is considered more exactly, it will be realised that it is necessary for a modulated part of the pulse from each set to reach the other in its sensitive phase. Now by the method of modulating the quenching oscillation, the maximum amplitude is only very slightly changed, but the duration of each pulse is changed, i.e. the ends of the pulses are modulated. For, as was pointed out earlier, a displacement of the instant at which the oscillation starts to build up is equivalent to a change of the initial amplitude of the oscillation. The same is true of the ends of the pulses: when the set passes from the oscillating to the quenched phase, the amplitude of the oscillation decays exponentially (and very rapidly). A displacement on the time scale is therefore again equivalent to a fractional change of amplitude proportional to the time displacement. The diagrams of Fig. 2 show the sequence of events at the two sets, A and B. (It should be noted that the dotted curves of the amplitude of the received signal are greatly magnified, until they appear to be of the same order as those of the local oscillation.) Since modulation is effected by displacing the ends of the pulses, the condition for sensitive reception is that the received amplitude should be changing rapidly with time at the sensitive instant of the receiver. This is indicated in the diagrams, where P and Q are sensitive instants of the set A, and R such an instant for the set B.

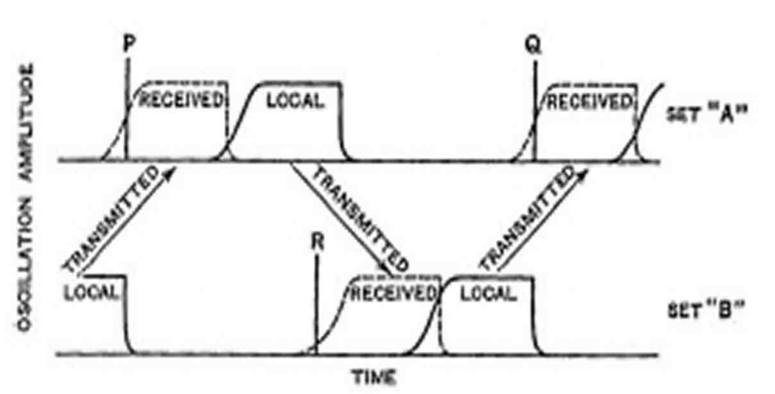


Fig. 2. — Diagrams indicating performance of the two sets.

A partial explanation of the mechanism of locking of the quench oscillators appears from this figure. As drawn, it shows the set A receiving the beginnings of the pulses from set B. Should the interval PQ be longer than the interval between the received pulses (i.e. the quench frequency of set A be lower than that of set B), then the amplitude at time Q, from which the local oscillation starts to build up, is increased: and we have seen that this is

The "local oscillation" of each set is radiated, and becomes the "received signal" at the other: each dotted curve is therefore a replica of the solid curve of the other diagram, but occurs later by the time taken in transmission. It is evident that the instant R can only be made to coincide with a part of the dotted curve having a steep slope by suitably choosing the quench frequency with regard to the separation or propagation time-interval between the two sets. Duplex working is therefore only possible with certain quench frequencies, which, when set A is being locked to set B, allow the sensitive instants of set B to occur either at the beginning or end of the pulses received from set A.

The duration of the pulses radiated is controlled not only by modulation of the quench oscillator, but also by the received signal. This also follows from the equivalence of a change of initial amplitude and a time displacement of the sensitive instant. The resulting modulation appears to be quite large, and we have found that it may be used to provide a relay action between two sets out of range of one another. When a third set is placed halfway between them, and can "communicate" with each of the others separately, and the quench frequencies of all three are locked together, the three sets can all "hear" one another. Similar "conference" operation is also usually possible when all three sets are able to work to each other in pairs, but the necessary adjustment is difficult and impracticable for mobile sets.

Modulation of the radiated pulses by the received signal is quite efficient compared with that produced by modulating the local quench oscillator. One incidental result of this is that the "side-tone" at the transmitter is perceptibly increased by the re-radiated pulses from the distant station.

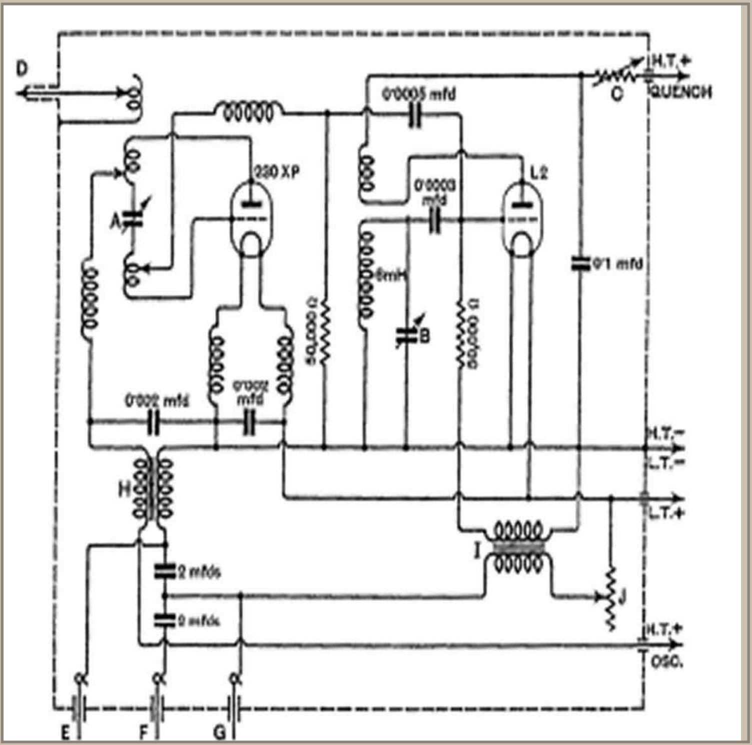
Normally the sets are remarkably free from “side-tone," that is to say the speaker scarcely hears his own voice in his receiver. This fact makes it possible to connect the sets to ordinary telephone lines without any trouble from acoustic instability. Alternatively it is possible to use a loud speaker instead of phones for reception without incurring microphone howl.

The Circuit

The circuit of the most successful apparatus used is shown in Fig. 3. The essentials are:

(1) An ultra-short-wave oscillator quenched at a supersonic frequency. This in addition to providing the transmitted oscillation also acts as a super-regenerative receiver. It therefore has a telephone transformer in the anode circuit and, also, in order to obtain a reasonably loud audio-frequency output, the grid circuit includes a resistance of about 50,000 ohms. The automatic volume control action characteristic of this type of receiver makes any additional volume control practically unnecessary.

(2) A speech-modulated supersonic quench oscillator. If the quench oscillation is fed to the grid circuit of the radio-frequency oscillator, the quench oscillator may be of lower power.



Fig, 3. — Circuit diagram of the duplex radio-telephone finally adopted by the authors as the most successful tried. The components of the circuit are as follows :—

A, Radio-frequency tuning 0.0001 μF; B, Quench-frequency tuning 0.0015 μF; C, Quench Amplitude control 50,0000 Ω; D, Concentric feeder to λ/2 antenna; E, Ordinary Line connection or L.R. Phones; F, Line con-nection with series condenser or L.R. Phones; G, Micro-phone or Combination Hand-set; H, Telephone Trans-former ratio 10:1 ; I, Microphone - Transformer ratio 30:1; J, Microphone Sensitivity Control.

Further, since only a slight degree of modulation is required, this may be supplied by a microphone and transformer in its grid circuit. The amplitude of the quench oscillation must be adjustable. This is conveniently done by adjusting a variable resistance in the H.T. lead. The frequency of the quench oscillator must also be adjustable over at least one octave, if communication is to be obtained at all distances.

It is essential that the coupling between the quench oscillator and the radio-frequency oscillator be such that harmonics of the quench frequency may be passed back efficiently from the radio-frequency oscillator to the quench oscillator. If this condition is not satisfied it is in practice impossible to lock the quench frequencies with a constant phase difference. Quench oscillators of the multivibrator type have been tried. These locked more readily, as would be expected, but it was found that they were also less stable against other disturb-ances, and modulation was not so satisfactory.

In other respects the circuit given may be modified as may be convenient. One or two points may however be mentioned. The radio-frequency oscillator should be as efficient as possible. With ordinary valves the circuit given seems very efficient. In this the filament current is led through a radio-frequency choke in which the two wires are wound parallel on the same core and the wires are bridged by a condenser at the end farthest from the valve. The anode and grid circuit leads are fine wires suitably coiled and coupled to the oscillatory circuit to obtain maximum output. The set is mounted in a screened box to avoid hand-capacity effects, which are other-wise troublesome, especially on the quench tuning. It is very convenient to feed the λ/2 aerial at its mid-point from an untuned concentric type feeder. The outer conductor of this feeder is "earthed" to the screening box, and the feeder is coupled to the oscillatory circuit by a few turns of thick wire adjusted by trial. When connecting the microphone and telephone transformers to a common line, the correct interconnection should be adopted in order to ensure absolute stability. It is also advisable to include a variable resistance in series with the microphone so that the sensitivity may be increased when the set is worked from a long line. The radio-frequency oscillator valve should have a low impedance so that the necessary grid resistance does not cause it to "squegg." There is another important consideration affecting the choice of this valve. It is found that in general the radiated frequency is slightly higher than the frequency to which the set is most sensitive as a receiver. This seems to be due to a change in the effective inter-electrode capacities of the valve between the oscillating and the sensitive conditions, and depends on the type of valve used. In this respect the Cossor 230 XP has been found the most satisfactory of the small-power valves that we have tried. This valve is also convenient as the leads to the electrodes are short and reasonably thick, so that the external circuit for a wavelength of 3 metres is not inconveniently small.

It will be clear that the reason for adopting the ultra-short waves is that this system occupies a wide frequency band. It is, however, to be noted that as the overall modulation is very slight, the audio-frequency interference is small as long as the quench frequency of the receiver is not locked to that of the interfering transmitter. The H.T. power supply to our sets is about 20 mA. at 150 volts (3 watts). The aerial current at the centre of the λ\/2 aerial is then about 40 mA. as indicated by a Weston type 425 thermo-milliammeter. The total weight, including the batteries, need not exceed about 20 lbs.

Performance

The performance of the actual sets may be summarised as follows. Duplex telephony with first-class quality and silent background is obtainable with quite simple tuning adjust-ments up to a distance of about ¼ mile over reasonably open flat ground. Up to this distance a quench frequency of 50 to 60 kc/s. may be used, and communication may be maintained with one set on a moving car with-out any necessity for altering the adjustment.

At greater distances the quench tuning adjustment depends on the distance between the sets; and as the signal strength falls off quality becomes marred by increasing back-ground hiss. This is, however, no worse than is observed with an ordinarily modulated trans-mitter of the same power. At the extreme limit of range, where it might be just possible to catch familiar phrases using a straight trans-mitter, it is found with the modulated quench system that the quench locking becomes difficult to maintainThe range obtainable with these sets depends very markedly on the sites chosen

With aerials not reaching more than 6 feet high, the effective range over flat ground is found to be about ⅝ mile. With favourable sites at the top of steep slopes, however, a greater signal strength has been obtained over 25 miles, and reasonably satisfactory duplex telephony has been carried out at this range.

The disparity between these figures is an instance of the surprising characteristics of the propagation of waves of these wavelengths. The main features of the difference from longer wavelengths are explained on the gen-erally accepted hypothesis, 8 9 10 that (1) these waves are too short to be reflected at all from the Heaviside layer, (2) strong reflection, with reversal of phase, takes place from the surface of the ground. The earth behaves as a dielectric at these frequencies, and (for 3-metre waves at approximately grazing incidence) as practically smooth. If the transmitter and receiver are situated at ground level, therefore, the direct ray and the ray reflected at the ground are received almost exactly out of phase and with equal intensity. There is thus a minimum of signal strength along the surface of the ground. As the sets are raised above the ground, a path difference is introduced between the direct and the reflected rays, and the signal strength is increased. (The strength at a fixed height is proportional to the inverse square of the distance, and not to the inverse of the distance, since the path difference is smaller the greater the distance between the sets.). The best site for an aerial is therefore at the edge of a precipice facing the distant station, or at the top of a high mast or building: not only (as is still commonly supposed) because a more distant horizon is obtained from a height, but also because a path difference is introduced between the direct ray and the ray reflected from the surface of the ground. It was stated by Beauvais in 193011 that it was most unfavourable for transmission if the waves left the transmitter or arrived at the receiver at grazing incidence over the surface of the ground for even a short distance, while the path of the waves might pass for miles over the surface of the earth or sea, midway between the transmitter and receiver, without much attenuation. The waves are, however, rapidly attenuated below the horizon. These conclusions have been substantiated by all subsequent workers. We may quote briefly the results of one or two of our experiments bearing on these points. (It must be emphasised that the super-regenerative receiver is so sensitive that these propagation phenomena are in evidence even with the low power radiated by our sets.) While signals cannot be received beyond a range of about a mile over flat ground, we have received signals at a distance of 47 miles with the sets at the top of steep hills rising 500 ft. from flat country, one near Folkestone and the other near Eastbourne. In this case intervening hills rose 300 ft. above the line of sight (allowing for atmospheric refraction) for a distance of 2 miles. However, the atmospheric refraction may have been abnormally strong during this test. It is much more certain that diffraction was important when a similar test was made on the Yorkshire moors. Fairly strong signals were received when the transmitter and receiver were well situated at the top of steep hills about 7 miles apart. An intervening table-land rose more than 200 ft. above the line of sight for 3 miles. Signals could not be received at the centre of the table-land: it seems certain that this was due to the destructive interference caused by the ray reflected there from the ground. Trees, buildings, and other objects of dimensions comparable with a wavelength produce very marked standing wave patterns. When an aerial is set up inside a building, it is almost essential to move it to a suitable position which in practice can only be determined by trial. The proximity of trees or buildings is, however, much less detrimental than that of open flat ground.

Conclusion

We have been mainly concerned with the practical aspects of communication on ultra-short-waves with portable sets. Nevertheless, it is hoped that this account may be of interest to those concerned with other aspects, for example the synchronisation of frequencies by radio, and the attainment of true duplex radio-telephony. It may be that the simplicity of the system for working over a fixed range is of more account than its portability. In common with other portable ultra-short-wave apparatus, it is at its best when used for temporary communication in mountainous districts. It seems probable that it will be many years before mutual interference on ultra-short-waves becomes a practical problem in the remoter districts.

http://www.holmea.demon.co.uk/Duplex/Duplex.htm

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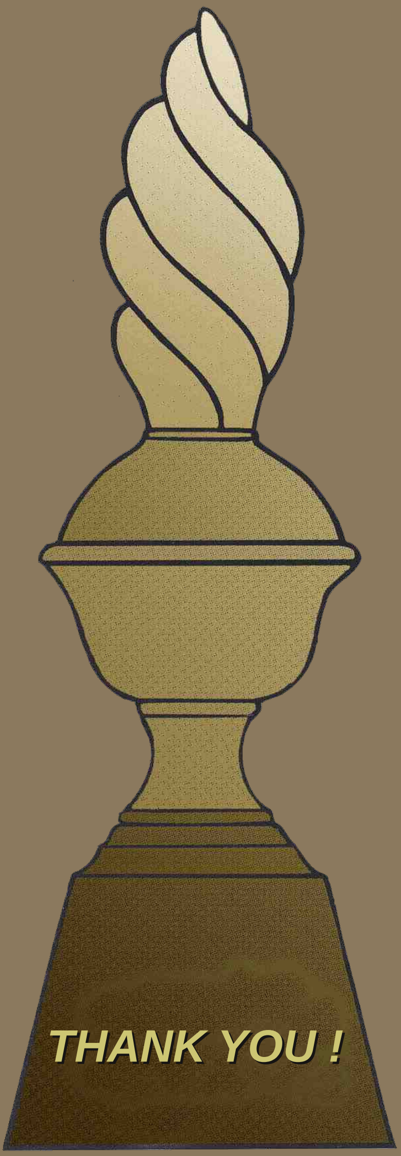

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HAM-MAG N.11 - December 2009

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Photo of the main page : HB9XC during an UHF contest in last october. Tnx HB9TDX.

HAM-MAG

May 2010

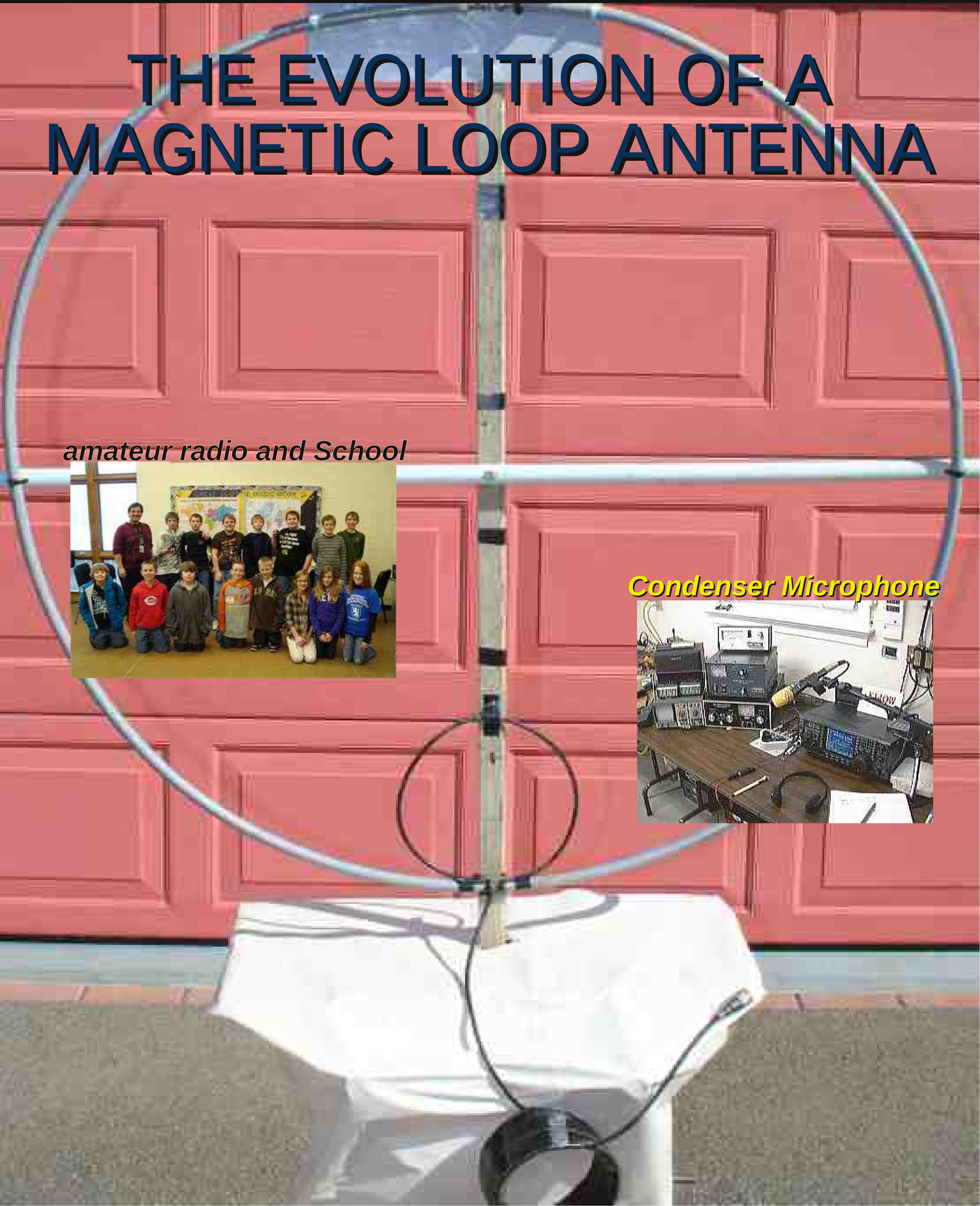
[N.16]

Inernational HAM Magazine - 100% HAM RADIO

THE EVOLUTION OF A MAGNETIC LOOP ANTENNA

amateur radio and School

Condenser Microphone



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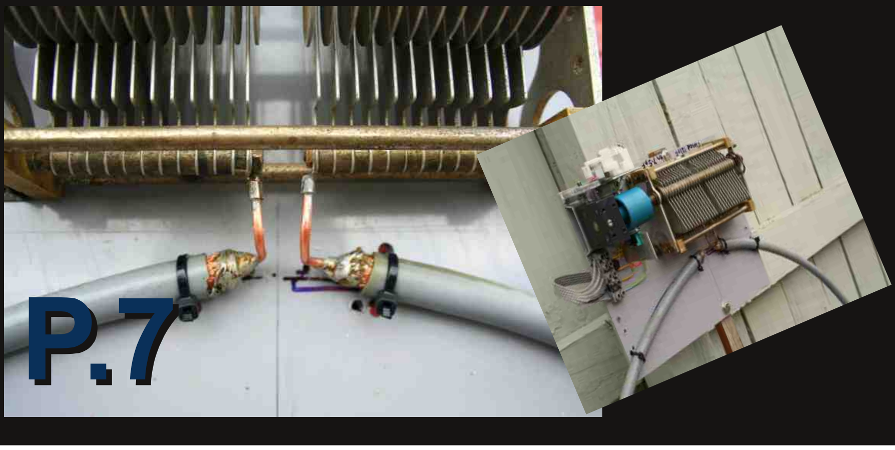

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POST-IT !

The breaking News

A Sun with no sunspots! The quiet Sun returned --

through Thursday, April 22, there have been eight days straight with no sunspots.

A new spot began to emerge on Wednesday, but it quickly faded. For the next 10 days NOAA/USAF predict solar flux at 78, 78, 80, 80, 80, 78, 76, 80, 80 and 80. Solar flux values above 80 aren't predicted until May 20-23, with a value of 85, but that is too far into the future to predict accurately. They also predict the return of sunspot group 1061 on April 23-25; that sunspot group was previously visible on April 5-10.

Sunspot numbers for April 15-21 were 0, 0, 0, 0, 0, 0 and 0, with a mean of 0. The 10.7 cm flux was 74.5, 74.8, 73.9, 74.7, 75.4, 75.6 and 76.1, with a mean of 75. The estimated planetary A indices were 8, 4, 2, 2, 5, 5 and 6, with a mean of 4.6. The estimated mid-latitude A indices were 5, 2, 1, 1, 3, 4 and 4, with a mean of 2.9. Planetary A index for April 23-May 2 is predicted to be 8, 6, 5, 5, 5, 8, 8, 5, 5 and 5. Geophysical Institute Prague predicts quiet to unsettled conditions for April 23, then quiet April 24-26, quiet to unsettled April 27 and back to quiet for April 28-29.

CSS announces Digital Desktop/SC for Icom Radios

Muscle Shoals, AL, April 19th 2010: Creative Services Software announced today that hams can pre-order the Digital Desktop Soundcard release for Icom Radio.

The program takes advantage of the built in soundcard and CI-V interface via the USB port on the back of the IC-7200 and IC-7600. Since these radios support the TX/RX commands in CI-V interface, only one cable is needed for digital modes, the USB cable. Other Icoms that support the TX/RX commands will only need the soundcard interfaced to them, and those Icoms that don't have a soundcard or TX/RX commands can still use the program with a soundcard interface to their computer.

The Icom radios that support the TX/RX and soundcard in the radio are:

IC-7200 and IC-7600.

Icom radios that support the TX/RX commands but will need a external soundcard are:

IC-703, IC-746 (original), IC-746 Pro, IC-756 Pro, IC-756 Pro II, IC-756 Pro III, IC-7000, IC-7700 and the IC-7800.

Modes like RTTY, PSK-31 and SSTV are included with the product and the plans are to include Winmor in a future release, and more modes will be added via the snap-in dll technology created by Erik Gawtry, KC0WWC, of Timewave Technology. This open source interface allows anyone to create just the modem portion of a digital mode and by putting the DLL in the folder of the program and the mode appears on the drop down list. Company President Rick Ruhl, W4PC, said, "At the Orlando Hamcation, we found out that only CSS supported the TX/RX commands in the Icom radios. The CSS staff decided to come out with a version of the Digital Desktop for the Icom Radios. While they won't be able to get the ARQ modes like Pactor, Amtor or G-Tor without a TNC, but will be able to use their radios in the non ARQ modes with the software.

A pre-order price of 34.95 is available at the CSS online store at http://www.cssincorp.com which is a savings of $5 off the retail price of $39.95. When the product is released, those who have purchased the preview will have the option to download the program or have it sent to them on CD (or both). Icom is on the web at http://www.icomamerica.com

Timewave Technology is on the web at http://www.timewave.com Creative Services Software is on the web at http://www.cssincorp.com

SWR – Tester

By Gerd, DM2CDB

To test SWR instruments and indicators of FT 817 or of NWT I have invented a simple circuit me, which allows you to set an SWR 1 through 3. The precision resistor can being both larger and smaller than the standard value of 50 ohms, because the SWR value allows no unique mapping the measured value.

The development was to solve the measurement function with as few costly performance precision resistors. Of course you can create a resistives SWR, capacitive or inductive components are not included.

Can the used resistors be without major errors about 500 MHz. How big is the influence of wiring on the accuracy, must be ongoing, if appropriate instruments are available.

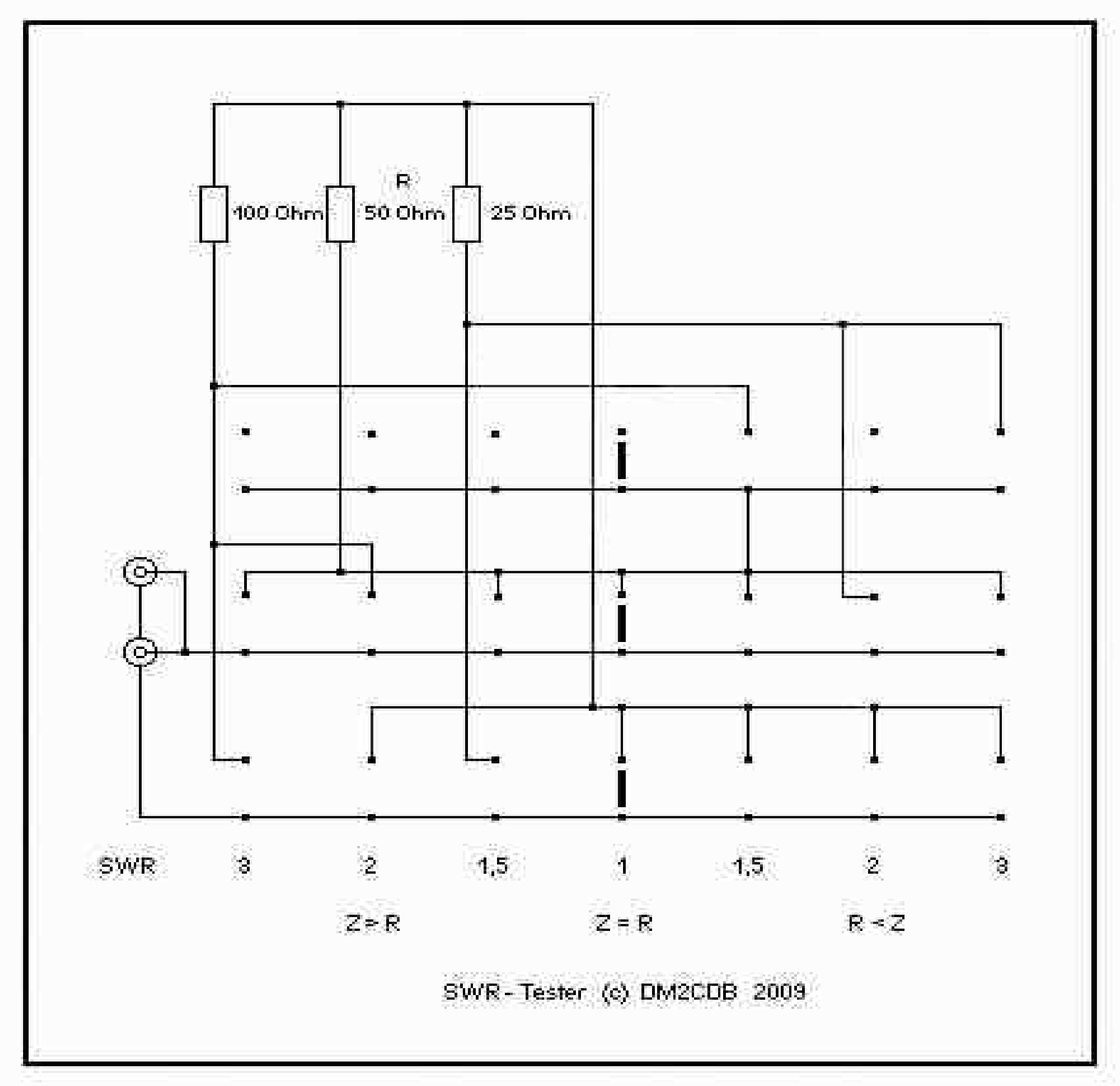
SWR - Tester was built performance precision resistors with 1% 100 W of 25 Ohms, 50 Ohms and 100 Ohms.

Maximum measurable RF performance strongly depends on the used heat sink thermal resistance. Without cooling QRP-are measurements up to 3.5 W possible.

The figure shows the circuit of SWR testers.

Who wants to use the opposition as a dummy load, should turn parallel to a second RF connector as measuring output to the RF input jack and position SWR = 1 measure performance.

73 from Gerd, DM2CDB



Quick and Easy Current Limited Emergency Battery Charger

By Art Loya - KJ4NIR

A quick and easy emergency battery charger used to charge lead acid or gel-cell type batteries from 120v AC can be quite handy. I have used this circuit many times charge my 12V-7A SLA battery I use with my Yaesu FT-857d radio until I finally got around to buying a small Battery Tender charger.
Cautions:
This is a simple unregulated charger, it can and will overcharge your batteries if left unattended.
This circuit uses dangerous 120v AC and normal cautions must be adhered to prevent electrical shocks. The advantages of this current limiting circuit are that it can charge about any voltage of battery, I have charged 6, 9, and 12v. It can also assist in preventing sulfation in the battery and rejuvenate older batteries.

Materials used:

- 120v 60w Light Bulb and inexpensive($1.29 @ Ace Hardware) porcelain lamp holder
- 1n4004 Silicon Diode,
- 16awg wire ungrounded AC Plug
- Red and black alligator clips

Circuit:
120v 60w bulb is acting as a current limiting device connected in series with the diode.
The diode's positive(+) side is connect to bulb and negative(-) side is connected to the battery's positive(+) terminal, the battery's negative(-) terminal is connected to the 120vAC return. Since this is a current limited design a battery of any voltage can be charge with up to 1/3 A. Even with a shorted battery, the maximum current flow is approximately 1/3 A. The pulsating DC current will help break up sulfation that may be present in the battery and can possibly rejuvenate an older weak or "near dead" battery.
Wiring it up:

- Connect plug to wire, I used a discarded lamp code with two prong plug attached
- Attached BLACK alligator clip to one end of the lamp card, this will be attached to negative (-) terminal of battery to be charged
- Connect one end of lamp cord to one side porcelain lamp base
- Connect positive(-) side of 1n4004 diode to opposite side of porcelain lamp base
- Attach wire to negative(-) side of diode
- Attach RED alligator clip to wire from diode, this will connect to the positive(+) terminal of the battery to be charged
- using electrical tape wrap diode and any exposed connections

Using the charger:
Note that the lamp is dimmer than normal. The diode allows the lamp to light at 50% duty cycle.
Monitor the trickle charging, this circuit is unregulated and it can overcharge your batteries.
73's ! Art

Teach the Classics...
Amateur Radio of course!
By Matthew Murphy, KC8BEW

Most people going to school learn Math, English (add your language here), history and such. In the ninth grade we had a special science class called Space Science. Only a select number of students were able to take it. What about a class in Amateur Radio? In the local elementary school we have done just that!

Beginning in October of 2009, we started the Dresden Elementary Amateur Radio Station (D.E.A.R.S.) in Dresden, Ohio. The music teacher at the school, Jim Mayercak, WX8J, was approached by the principal of the school asking if he had an idea for a club. She had an idea to allow the 5th and 6th graders to make up clubs for different things like photography and scrapbooking and other hobbies. Jim said to her "how about ham radio?" She liked the idea a lot and asked if it was possible. "With some help of a local club we can do it" Jim said. More good news came when she told him the PTO (Parent Teacher Organization) was behind this and to make a list of what was needed. Jim went to the members of the Muskingum Valley Ham Radio Club (of which Jim is a member) and it was greatly received

We put together a plan and made a list of what we would need to put together a small station from the ground up. With help from the club members, we were able to get most of what we needed. We still had other equipment needs that we filled with borrowed equipment till the school could get its own. On October 14, 2009, D.E.A.R.S. was on the air. Did I mention that this is not an after school club? It takes place during the school day!

We had 15 kids that signed up for our club. The principal stated that they had to limit the clubs to 15. If not, we "would have had 45!" We started with an overview of what Amateur Radio was and that we do and some rules set forth from the FCC. Jim then turned the radio on and took volunteers. A couple of the kids took right to it. In fact, Austin and Lizzy will turn into first class operators.

I will confess that for the first day we had set up a contact with a local ham, Sonny W8FHF. Everyone had a chance to talk to him. For the next meeting we had Sonny come and give each of them a QSL card. At this point they were hooked. We try to get everyone to talk on the radio at least once a meeting. Some have made several contacts while others have made only one. Each meeting, they all ask if they have gotten any more cards.

On March 10, 2009 we had a dedication of our new equipment. The club now has a Kenwood 520S with external vfo, speaker, digital display, microphone and straight key donated. The local TV station and newspaper were there. It was great to see the kids talk about ham radio and how they are having fun.

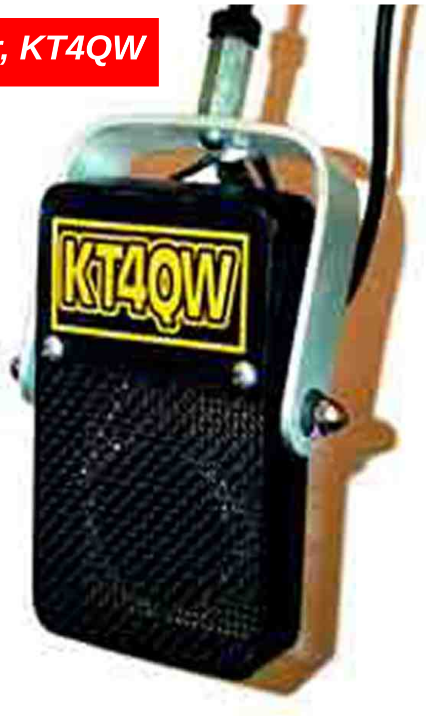
We are waiting on a club call sign to be issued, so for now we use Jim's WX8J. The club meets every other Wednesday with the next (as I write this) being April 7th. We gather at 18:30UTC and go until 19:20UTC. We mostly stay around 40 meters in the General class portion of the band.

73, Matthew Murphy, KC8BEW

By Sam F. Kennedy Jr, KT4QW

A Homebrew Condenser Microphone

Build a condenser microphone that will perform like the costly commercial units…plus, you won't need an expensive equalizer. Sounds good!



With modern commercial amateur transceivers becoming increasingly difficult to work on, most ham builders have turned to other endeavors. Looking around for a fresh project, and one that had a reasonable chance of success, I decided to build a "scratch-built" condenser microphone. One of my friends had been working on piezoelectric homebrew microphones, so the condenser microphone seemed like a good choice. I know that this is 1920s technology and that you can buy a very good microphone reasonably, but it is interesting, challenging and educational to retrace some of the development processes of those "times gone by." I set the following objectives for my new homebrew microphone:

- Sound as good or better than the Heil Goldline microphone
- Work directly into a transceiver without external equalization or processing
- Require no special tools to fabricate
- Use no manufactured microphone parts
- Use no special materials—only those found in the "junk box" or local store
- Be attractive and complementary to my station
- Be inexpensive

I'll not bore you with all the things I tried that didn't work—I will simply explain the final model that met all my objectives. The final product, pictured here, is the result—a condenser microphone with a very large diaphragm (1.6 inch diameter). The coarse screen mesh "cricket cage" serves as a combination windscreen and Faraday shield for the element. Adequate shielding is very important to ensure that no RF enters the audio stream. Because of the high gain required to amplify a condenser element, RFI can be a problem, so I shielded all the components thoroughly.

A Homebrew Condenser Microphone Build a condenser microphone that will perform like the costly commercial units…plus, you won't need an expensive equalizer. Sounds good!

Some Basic Theory

Condenser microphones use a thin lightweight conducting membrane as a diaphragm and a fixed plate closely spaced behind it. The two facing surfaces become the plates of an air dielectric condenser (or capacitor if you prefer). Sound pressure against the thin membrane causes it to move. This movement changes the spacing between the plates and therefore the capacitance. When the condenser is polarized (charged or biased) with an external voltage, it causes a changing electrical output proportional to the sound pressure. The source impedance of the condenser element is very high, several megohms being typical. A built-in field effect transistor furnishes the impedance step-down necessary to deal with input to typical solid-state amplifiers. The FET has the capability of accepting a very high impedance input and producing a reasonably low output impedance of 1-2 kΩ, while producing moderate gain

When considering commercial studio type condenser microphones, “phantom power” is the term normally used for an externally supplied bias or polarizing voltage.

A microphone of this type is said to be a “pure condenser” type as contrasted with an “electret condenser” microphone, which requires no external polarizing voltage. The homebrew microphone under discussion uses a polarizing voltage derived from a very small internal 48 V battery mounted within the microphone housing. It does not use an external phantom power system.

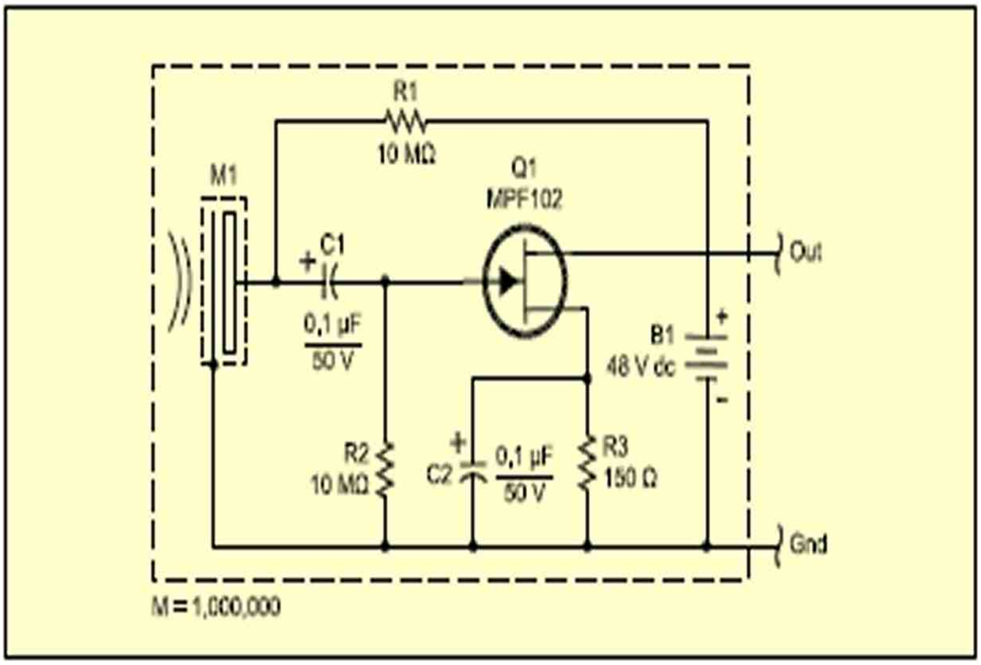


Fig.1 - The microphone amplifier schematic together with the parts required for construction. Note that the polarizing or bias battery is fabricated from multiple cells, as described in the text. R1 and R2, the 10 MΩ resistors, can be made of two 4.7 MΩ, 1/4 W resistors if 10 MΩ resistors prove difficult to locate. C1 is used to keep the microphone polarizing voltage from appearing at the FET gate and C2 is used to bypass the FET source resistor. M1 is the microphone element and its construction is described in the text.

B1—48 V battery (see text). C1, C2—0.1 µF, 50 V capacitor. M1—Fabricated element (see text). Q1—MPF-102 JFET, RadioShack 276-2062. R1, R2—10 MΩ, 1/4 W resistor. R3—150 Ω, 1/4 W resistor.

As is the case with an electret microphone, it does require a small voltage for the FET impedance transforming circuit inside the microphone. And, as in many electret microphones, the FET’s drain load resistor and voltage source are located downstream, in the amplifier. No specific power supply is therefore necessary when operating this microphone with an electret-compatible circuit, such as that used by ICOM. As an example, this operating mode provides adequate microphone drive to satisfy the IC-756PRO transceiver.

Figure 1 is the schematic of the microphone amplifier and the parts required. In critical sound applications, the condenser microphone is often preferred for its uniform frequency response and its accurate response to transient sounds. The natural design of a condenser microphone ensures an outstanding low-frequency response, and the low mass and high tension of the diaphragm allows a smooth high-frequency response. This results in a clean, natural and clear sound. It is said to produce outstanding “transparency and detail.” These characteristics make the condenser microphone a natural choice for professional use or other demanding applications.

Some manufacturers produce condenser microphones with diaphragms that are less than 1/10,000th of an inch thick.

For amateur service use, not all of these characteristics are relevant. Since most amateur transmitters roll off most audio frequencies above 3 kHz, the high frequency characteristic of the microphone is not overly important. Condenser microphone design does provide the opportunity to shape the audio response without the use of external equalizers and processors.

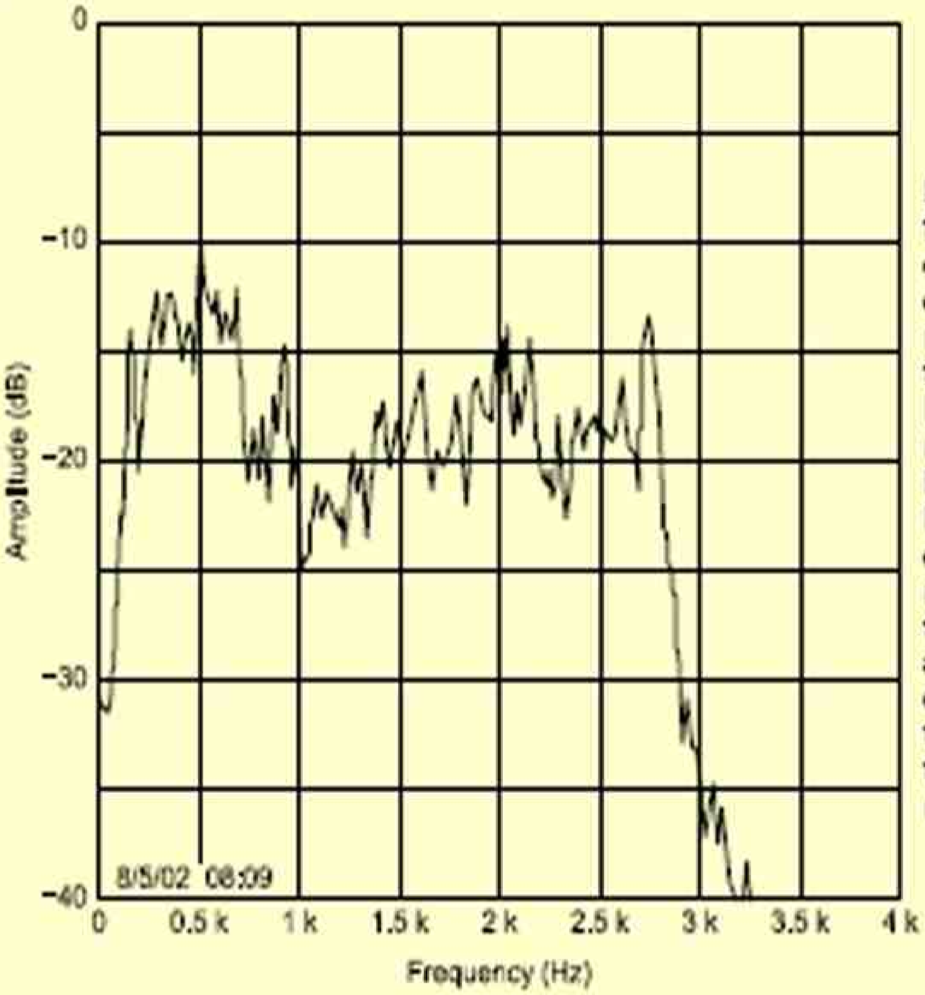


Figure 2—The overall frequency response of the homebrew condenser microphone as transmitted by an ICOM IC-756PRO and received by a Ten-Tec Pegasus transceiver. Note that the frequency response ranges from 100 Hz to 2750 Hz. The hump at the low frequency end is a typical ICOM transmitter characteristic. See editor's note in text.

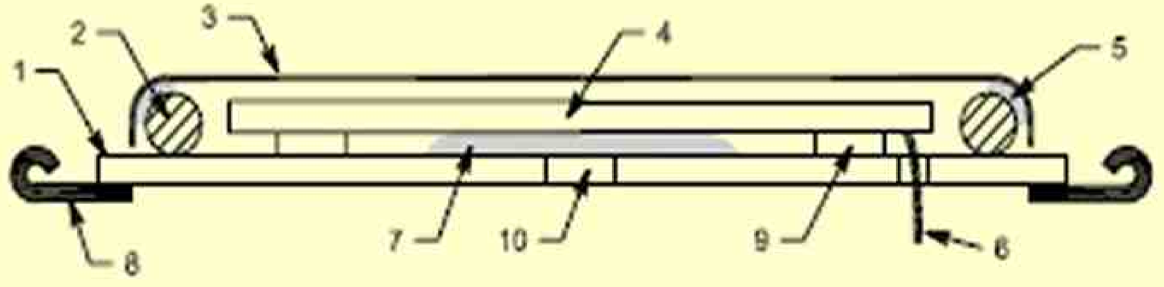


Figure 3—The microphone element mechanical details and basic construction steps. More detail can be found in the text.

1. The microphone base is made of a round disk of 1/16 inch double-sided PC board. 2. The spacer ring is made of 1/8 inch brazing rod, bent into a 1.6 inch diameter circle and soldered to surface of the base. 3. The diaphragm is 0.001 inch aluminum foil (lightweight household foil). 4. The condenser plate (inner) consists of 1/16 inch double side PC board and positioned 0.005 inch below the diaphragm. 5. The diaphragm is attached to spacer ring with epoxy cement. Stretch foil as tightly as possible without tearing. 6. Flexible wire is connected to front surface of the condenser plate. Connects to the input coupling capacitor and to the JFET transistor and the polarizing voltage (bias) resistor. 7. Epoxy mix holds inner condenser platein position. 8. Dress hooks soldered in place for elastic band suspension of the microphone element (4 hooks soldered with 90° spacing around element perimeter). 9. Foam rubber doughnut (see text). 10. Pour hole, 1/4 inch, for pouring epoxy mix into cavity to hold the condenser back plate in position.

In the case of the homebrew microphone under discussion, a very large diaphragm (1.6 inches) is made of 0.001 inch thickness aluminum foil. The large diaphragm increases the low frequency response and the thickness of the material does limit the high frequency response, but the microphone operates very well within the frequency range we are concerned with.

Transmitted Spectral Content

Using a HamAlyzer3 FFT audio spectrum analyzer on my notebook computer, I was able to test for frequency response and to “tweak” the microphone to achieve best results. Figure 2 shows a HamAlyzer trace of the microphone’s over-the-air response when used with my ICOM IC-756PRO transceiver. This trace was captured by W5TOM, using his Ten-Tec Pegasus.

After extensive testing, I discovered that this microphone had the best “presence” and overall sound quality when the element was suspended in air with no enclosure other than the element itself.

It produces a cardioid pattern over the whole frequency range, but the pattern is less pronounced at low frequencies. It does pick up room noise and it shows less “proximity” effect than other microphones I have used. I did not concern myself with frequencies above 4 kHz, in that my transmitter cuts off everything above about 3 kHz anyway.

Building the Element

By referring to Figures 3, 4 and 5 you can see that the element is constructed by building four main subassemblies, then combining them. These are:

1. The base plate, a circular, 1.7 inch diameter disk of double sided 1/16 inch printed circuit board. I used a school-type compass for layout and sawed the base plate out using a small jigsaw. Note that a 1/8 inch hole is drilled into this part. This serves two purposes. One is to furnish an exit path for the wire that connects to the inner condenser plate and the second is to relieve some of the acoustical back-pressure. It is important that the element is vented to atmospheric pressure to avoid an internal pressure differential and thus distort the diaphragm. The hole in the center of the back plate is 1/4 inch in diameter. This hole is for pouring in epoxy behind the condenser back plate and is filled in later.

2. A 1.6 inch diameter brass ring is made of 1/8 inch brazing rod. It is formed into a circle by wrapping it around a 3/4 inch schedule 40 PVC pipe coupling which is clamped in a vise. The coupling is only 1.3 inch OD, but the rod springs back to form a somewhat larger circle. It is formed around the coupling for about a turn and a half and then adjusted so that it forms a 1.6 inch circle. The brazing rod behaves much better if you anneal it by heating it with a propane torch to discoloration and then letting it air cool. After the bending operation, clamp the loop in a vise and cut the both ends at the same time with a hacksaw. Solder it together being very careful to align the two ends to ensure a smooth circle.

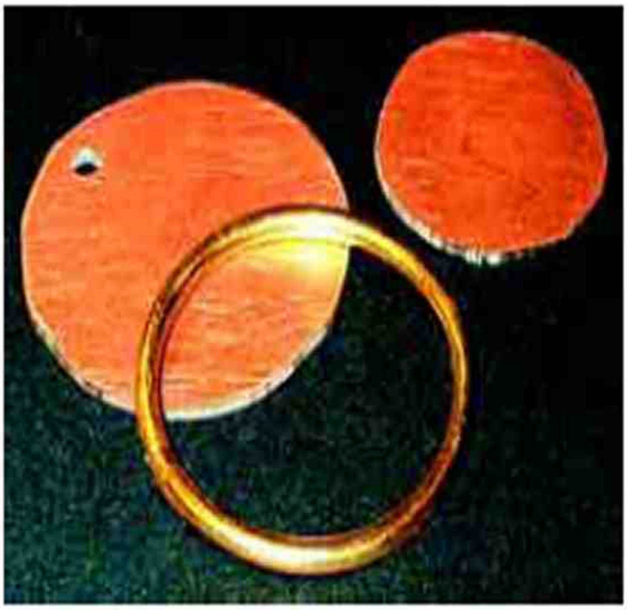


Figure 4—The main parts of the microphone element.

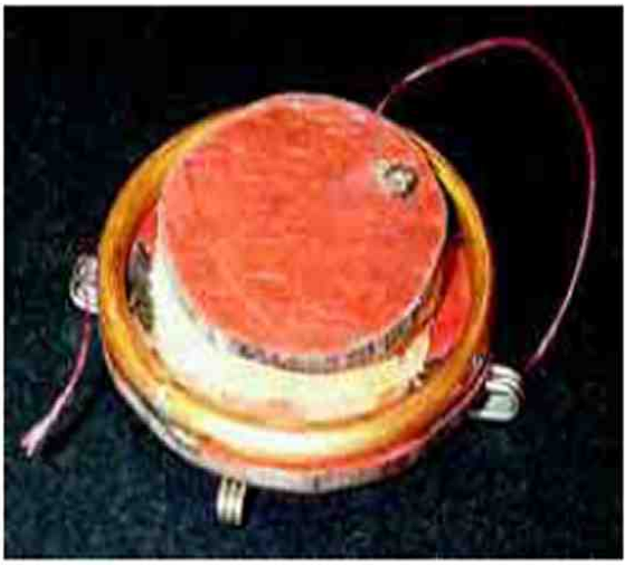


Figure 5—The assembled microphone element.

3. The back plate of the condenser is a circular 1.25 inch diameter disk made of double sided 1/16 inch printed circuit board. The layout for this was also done with a simple school-type compass and then the back plate was sawed out using a small jigsaw. Since most of the diaphragm motion is in the center, there is very little advantage realized by using all the outer space under the diaphragm. The 1.25 inch diameter leaves plenty of room around the edges for assembly and alignment.

4. A foam rubber doughnut the same OD as the back plate is required. While not critical, the doughnut's center hole should leave about 1/4 inch of foam and the height should be about 1/4 inch. This will allow it to be compressed to approximately 1/8 inch in the final assembly. This doughnut, or "O-ring," serves to contain the epoxy poured in from the back and produces pressure on the back plate so that it will align with the brass ring when clamped to a hard smooth surface. Smooth the edges and the flat surfaces with 400 grit wet-dry sandpaper. Place the sandpaper on a firm, flat surface and lap the surfaces carefully to make certain they are flat and have no rough spots or burrs.

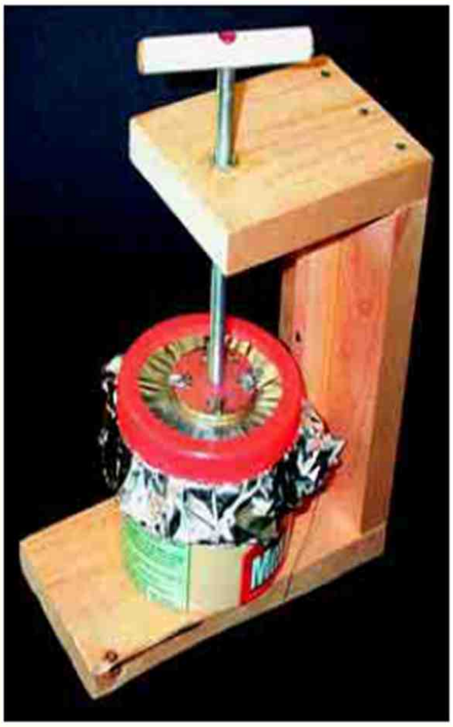


Figure 6—Applying the aluminum foil diaphragm to the element using a homebrew test fixture. Notice the bead of epoxy cement around the edge of the spacer ring. The diaphragm is held in this position until the glue dries fast. It is then trimmed, close to the ring.

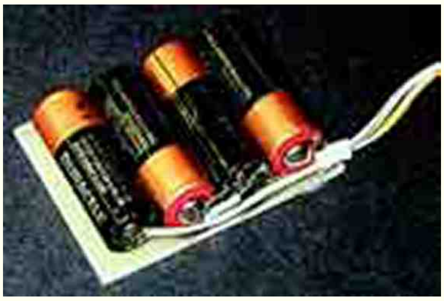


Figure 7—The 48 V polarizing (bias) battery assembly and parts list. 2 each, 12-V packs (RadioShack Keyless Entry System, RS 23-279 [GP27A]. Each pack contains two batteries for a total of four). 1 each, fiberglass board, 1.25×1.75×1/16 inches. 1 each, Velcro patch 3/4×3/4 inch. Apply to back of board for mounting. Misc Short length of very small gauge stranded hookup wire for inter-connects and external leads. Small quantity of 5 minute epoxy to affix the batteries to the board and to clear coat the finished unit for insulation. Small section (0.5 inch) of shrink tubing to contain the two battery wires.

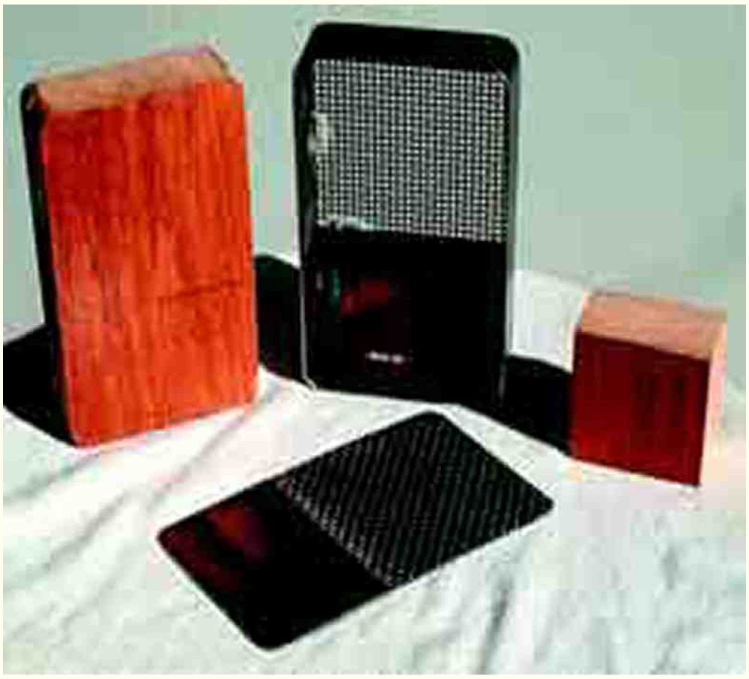


Figure 8—An example of a typical microphone housing, with parts and fixtures.

The following steps are necessary to assemble the element:

1. Solder a small, flexible insulated wire to the condenser back plate. This connection must be made to the front surface of the disk in such a manner so as to avoid disturbing the flatness of the front surface. I drilled a 1/16 inch hole from the back but not all the way through the front copper. Then press a dimple in the copper over the hole and drill a hole through the copper large enough to terminate the small connecting wire. Carefully sand the surface to make certain the solder does not protrude above the back plate front surface.
2. Solder the brass ring to the base plate (large disk) in three places. Use a large soldering iron and a minimum amount of solder and make sure that the solder flows to both ring and plate. See Figure 6 for the proper position of the ring.
3. The most critical operation of the entire project is mounting the condenser back plate so that it is 0.005 inch below the plane of the lip formed by the brass ring. This is done by temporarily pasting a piece of heavy paper (0.004 to 0.005 inch thick) onto the front surface of the condenser back plate. This shims the surface of the plate a controlled distance behind the plane of the lip. When both surfaces are pressed firmly onto a flat surface and glued in place, the proper spacing will have been established. The objective of this operation is to establish the minimum spacing possible while ensuring enough clearance, to avoid shorting of the condenser plates when stimulated with high sound pressure levels. The closer the spacing, the higher the microphone's output level and the better the signal to noise ratio.

Application of the Diaphragm

Initially, I had difficulty applying the aluminum foil diaphragm to the base ring of the element. Figure 6 illustrates a fixture I built to make the task easy. Remember that the foil must be tensioned to the maximum extent possible without bursting. The following procedures will make this critical operation easy. Note that it is not essential to use a special fixture. A drill press that can be locked into position or a similar device will work equally well. The fixture allows a larger than needed piece of foil (lightweight aluminum foil from the kitchen) to be held smoothly and tightly while the element is pressed into it. A large-mouth plastic jar with a threaded top is used to hold the foil. The center portion of the jar top is removed with a sharp pocket knife. With a little care and experimentation, it becomes a very simple operation to form a "drum head" with the jar. The foil need not be tensioned, just clamped into place smoothly with no ripples. Lubricate the threads on the jar and the lid with a very light application of nonstaining oil or petrolatum. This makes it much easier to get the foil in place. Make certain that the lubricant does not get on the foil in the center area or it will interfere with the cementing operation.

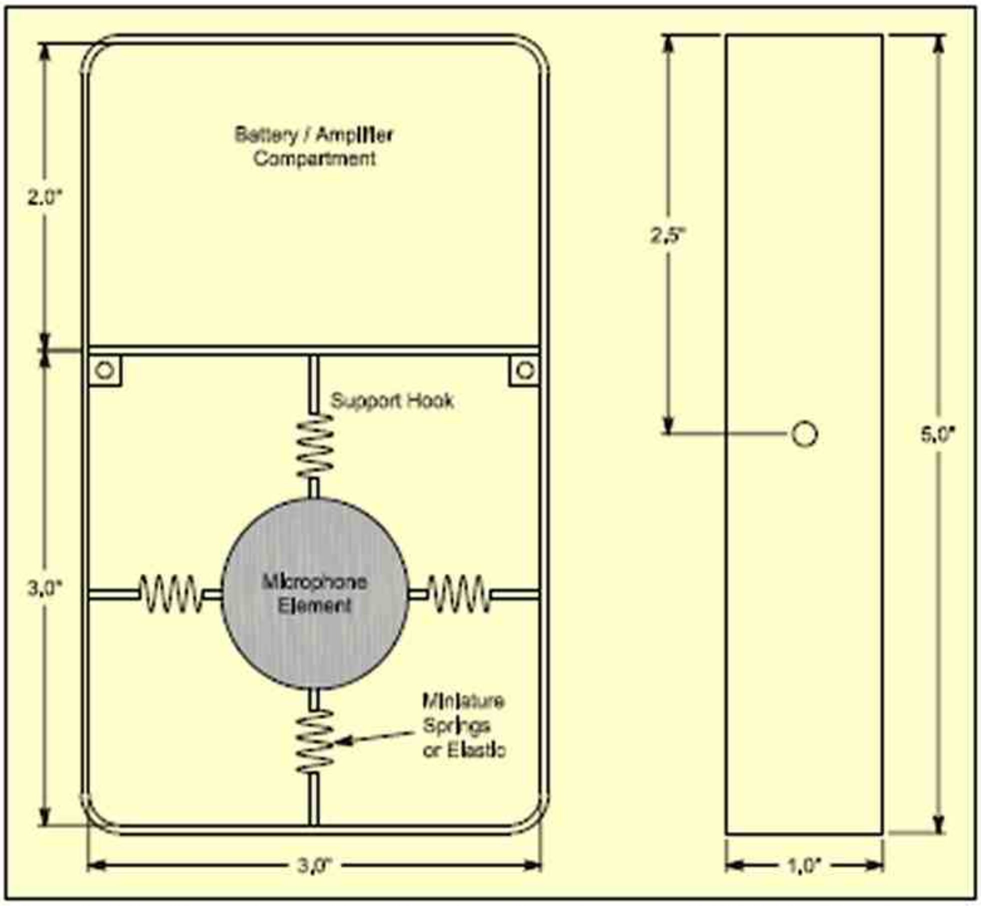


Figure 9—The dimensions of the microphone housing example. Note that the element is suspended by hooks and elastic.

Once the element is pressed into the center of the "drum head," apply a light coat of epoxy cement around the edge with a small brush. Just a few bristles of an old brush held together with a piece of masking tape works fine and can be discarded when finished. Allow the epoxy to set (I used fast set epoxy but you may need more working time to avoid rushing) and then remove the excess foil by simply rough-cutting the excess foil from around the element. When it's removed, carefully trim the edges, being careful not to injure the tensioned diaphragm.

Verify that the foil has a stable electrical contact with the ground portion of the element and that it does not make contact with the back plate of the condenser. Polarizing (Bias) Battery The 48 V battery assembly is made up of four 12 V batteries wired in series and mounted on a small fiberglass board.

Since the condenser microphone uses this voltage to furnish only element bias, there is no current drawn from the battery and you should expect many years of full output potential—essentially the normal shelf life of the battery. The internal battery was used rather than an external power supply for economy and simplicity.

Figure 7 shows the wired battery assembly. The Microphone Housing Because everyone has different mechanical capabilities and facilities at their disposal, I have not attempted to furnish exact mechanical details for construction of a housing. A number of satisfactory designs are possible. The housing shown in Figure 8 was constructed by W5TOM, using no more than simple hand tools and equipment. Figure 9 gives the overall dimensions for the housing. While I didn't intend to furnish exact construction details for the microphone housing, these photos and notes should provide some basic ideas for the construction techniques used to make a suitable housing. Since I use a boom microphone, my construction followed that path. A very nice desk mount could probably be constructed without much difficulty. So, sitback and enjoy your new condenser microphone— you'll be proud to say, "The mic here is totally homebrew!"

Sam Kennedy, KT4QW, has been interested in radio since the age of 7 (70 years ago) but was actually first licensed in the 1950s as K4DEP. Relicensed in 1996,when he was assigned his current call, he earned the Amateur Extra ticket shortly thereafter. Sam has attended both commercial and US Navy electronics schools and has worked with military radio, radar and navigation equipment.

He enjoys the technical aspects of ham radio and, as can be seen from this article, he has a special interest in microphones. You can contact him at

57 Huxley Pl, Newport News, VA 23606

By Ian, ZL1TXZ

THE EVOLUTION OF A MAGNETIC LOOP ANTENNA

Ever since I wrote a short article reporting on a Magnetic Loop Antenna made by Pieter ZL1PDT and Frank ZL1QRM in our Rotorua Amateur Radio Club Newsletter , no.6, Sept. 2009, I have been trolling the internet and reading every publication I could find on the subject.

Having sifted the serious from the dubious, (believe me, if you trust every article and piece of technical information you read, you will spend a lot of time following dead ends), I decided to build a 1-meter diameter loop. I figured that this diameter, recommended by so many experts, should easily cover the HF bands from 80m up to 10m.

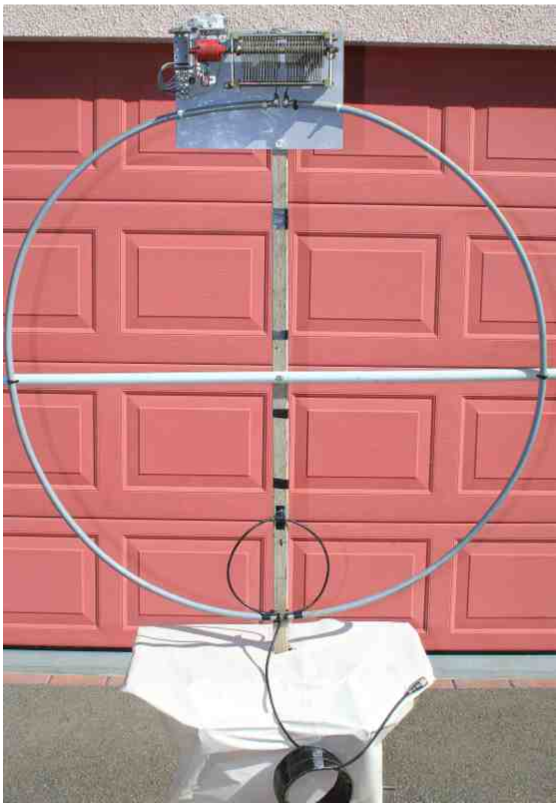
It then became a matter of obtaining a transmitting type ganged variable capacitor as a starting point. Thanks to a club member, I became the owner of a suitable unit at a Ham rates price and it then became a matter of sifting through my junk box(es) and devising a suitable reduction drive system using a 12volt DC electric motor. Further fossicking produced 2 limit switches and another old and small 90:1 worm drive gearbox. By using a roller from the underside of a cheap plastic storage bin as a final pinned coupling to the capacitor and gearbox, I was able to screw in a couple of PK screws in suitable locations on this drum type coupling to actuate the limit switches. I used a thin flexible S/S strip between the rotating limit screws and the switches to avoid catching the screws. The whole assembly fastens to a PVC sheet cut to shape.

My variable capacitor measured 7pF open and 125pF closed. However, in the configuration I am using, it gave me a range of 3.5pF to 63pF. This configuration using a split stator capacitor, effectively eliminates any resistance from wiper/bearing contacts. Each end of the loop is connected to a stator and the rotor forms the coupling path between both stators. This of course divides the total value of capacitance by two, but an upside is that it does double the voltage rating!

Having built and tested the 1-meter dia. prototype loop, it became painfully obvious that I had insufficient capacity to tune it for the required band and with the voltages calculated at the capacitor with 100w drive, switching in additional capacitance to a remotely located loop was not going to be a practical solution.

“On Air” tests carried out by switching between my wire 80 dipole with tuner and the 1m dia. loop, showed the dipole clearly superior by 2 to 3 ‘S’ points on 80m and 40m, about equal on 20m. The loop was clearly superior on each successive band up to 10m where the loop gave an approx. 4 ‘S’point advantage.

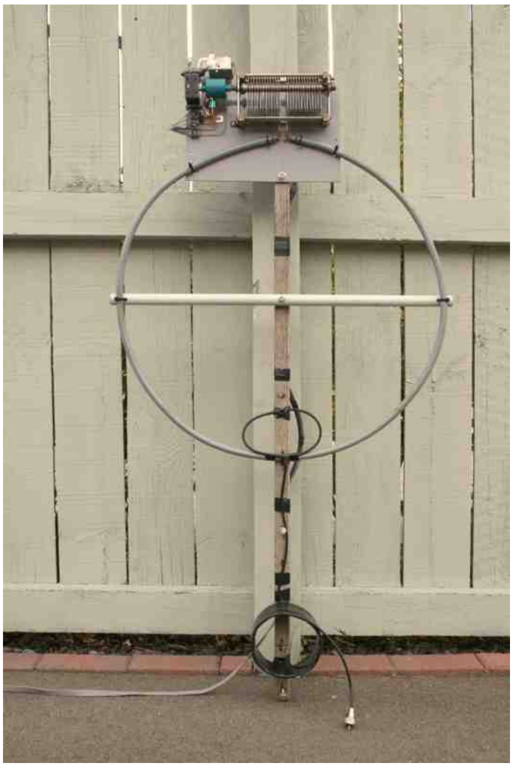
At this point, to suit my requirements, I decided to rebuild the loop to a smaller diameter, one which would work with the variable capacitor I had. A whole series of calculations were made, using different configurations, with the Loop Calculator obtained from the web at:
www.standpipe.com/w2bri/software.htm
This calculator is the KI6GD Magnetic Loop Calculator V1.4 ©2009



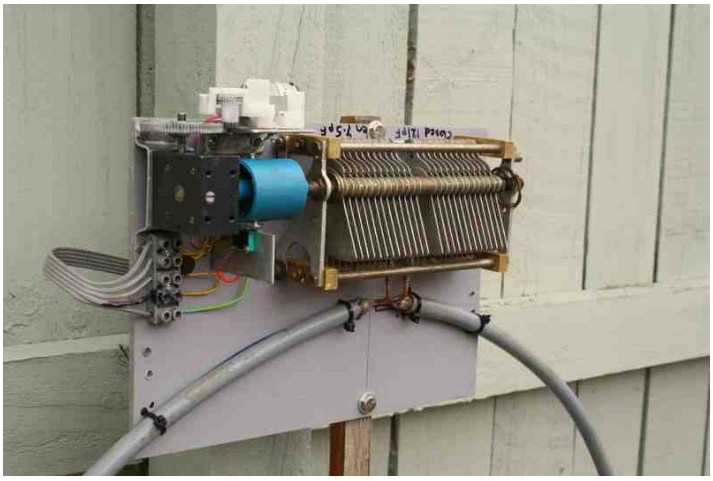
My prototype 1m dia. Mag. Loop

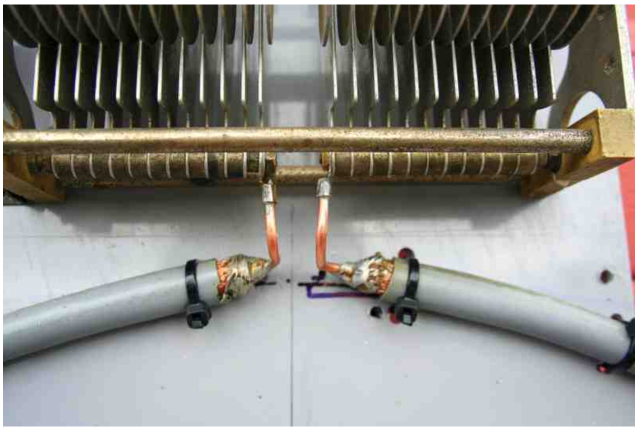
I ended up with a loop dia. of 625mm from 12mm dia. heavy coax and a 125mm dia. coupling loop made from 50 ohm RG58a/u coax. cable in the form of a 'Faraday' loop. The figures suggested that this size Magnetic Loop would cover the bands from 20m to 10m with my capacitor. Here are the calculated figures:

mHz.	Bandwidth.	Cap. value.	Cap voltage.	Efficiency.
14.000	10kHz	56.3pF	5kV	21.7%
14.300	10.3kHz	53.7pF	5.1kV	23.0%
18.068	14.9kHz	31.2pF	5.3kV	40.4%
18.168	15.1kHz	30.8pF	5.3kV	40.8%
21.000	20.6kHz	21.4pF	5.3kV	53.4%
21.450	21.7kHz	20.3pF	5,2kV	55.2%
24.890	32.1 kHz	13.4pF	5.0kV	67.5%
24.990	32.5kHz	13.3pF	5.0kV	67.8%
28.000	45.8kHz	9.3pF	4.7kV	75.8%
29.700	55.4kHz	7.5pF	4.5kV	79.45%


The Final 625mm dia. Loop.

This new 625mm diameter loop was duly built and coupled to the motorized tuning capacitor.


Home brewed 12v geared remote control,
var. cap. drive system.


Connection of loop ends to capacitor.

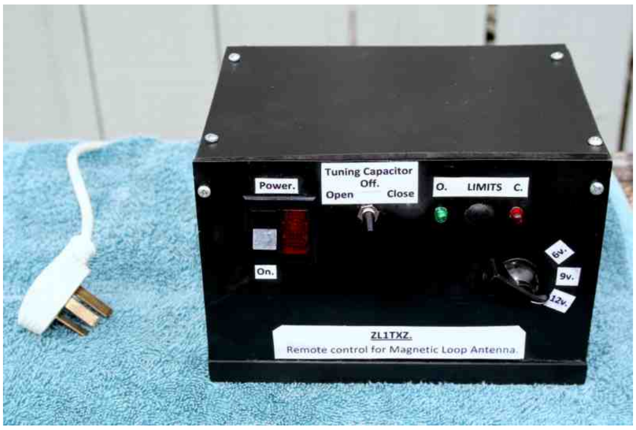
Coupling the RARC's "MFJ Antenna Analyzer" to the small coupling loop coax resulted in the following figures:

From 14.000mHz to 14.300mHz showed a 1.1swr @ between 40 and 42 ohms.
" 18.068mHz to 18.168mHz " 1.4swr " 50 ohms
" 21.000mHz to 21.450mHz " 1.7swr " 50ohms
" 24.890mHz to 24.990mHz " 1.4swr " 47ohms
" 28.000mHz to 29.700mHz " 1.4swr " 50ohms

With the variable capacitor fully opened on the limit switches, the loop tuned up to 33.600mHz and with the capacitor fully closed on the limit switch it tuned down to 13.2mHz. Thus the present loop dia. and this variable capacitor combination appears to be about right for my needs. The actual bandspread figures have not been checked yet, but they appear to be in line with the calculated figures, i.e. narrow at 20m and extremely narrow at 10m! This of course is the downside of using a Magnetic Loop, very critical tuning and narrow bandwidth.

Whilst testing the first (1m dia.) version of the loop, my initial version of the remote Motor Control Box had a switching system with an extra switch allowing the limit switches to be over ruled. Yes, that anti-ham fellow, 'Murphy,' struck and during a short period where my attention was focused on watching the MFJ antenna analyzer, I effectively wrecked the motor drive reduction system.
Suffice to say, that after rebuilding the motor drive reduction system, I redesigned and rebuilt the control box 3 times and the final version used the "Kiss" principle. As long as the limit switches do their job it is foolproof.
The final configuration is pictured as is the circuit diagram.

I used a commercial small switched Power supply, picked up very cheaply at a recent Amateur Junk Sale. This was built into the box and gives a switched output dc voltage of 12v, 9v, or 6v DC at a max. of 400mA, more than required. This feature allows very good speed control of the motor drive. The last requirement was to roll up a few turns of the coax feedline to form a choke close to the input.



Remote Tuning Control Box

The final details have yet to be realized, that revolves around where to install the completed Loop without it becoming like 'Cape Canaveral' as my XYL calls any antenna setup at my QTH. I have hoisted it up from and alongside my only Pole, a guyed rectangular PVC downpipe fastened on to the end of my shack, which supports the center and 300ohm feed to my wire dipole and has my VHF/UHF combination 'J'pole on the top. The Loop performs very well here but has to come down every day to keep the peace. The answer will be to install it, hidden under my iron roof, but positioned in the ceiling space at a gabled end, where it will radiate towards the east. Ham Radio has to incorporate many compromises!

73's ! Ian, ZL1TXZ.

By Clint Hurd, KK7UQ

Getting Started with Digital Sound Card Modes with the Yaesu FT-817 Transceiver

Abstract This paper describes the steps taken to interface the Yaesu FT-817 transceiver to a computer sound card system to operate in one of the digital sound card modes such as BPSK31, QPSK31, BPSK63, MFSK16, RTTY, CW, Helleschreiber, SSTV, MT63, Throb, Packet and others. Covered are the hardware interfacingrequirements, the software control methods, the setup of the FT-817menus, andoperating procedures to use these modes.

Introduction

The Digital Sound Card Modes are well suited to QRP operation with rigs like the FT 817. In one week of testing with the interfaced rig, solid 20 meter DX contacts were made to Mexico, Thailand, Hawaii, Alaska, New Zealand, Fiji, New Caledonia, and Argentina as well as US stations in the South East, Mid West and South West. The antenna used was a G5RV up 45 feet. Power for all these contacts was done at one watt peak output. Modes used included BPSK31, MFSK16 and RTTY. The station (KK7UQ) is located in Port Townsend, Washington, USA.

A typical operating station consists of the FT-817 rig, a laptop PC and the interface. A picture of this setup, ready for portable operation in the travel trailer, is shown above. One optional accessory is the family Schnauzer, Flora, peering over the computer in the background.

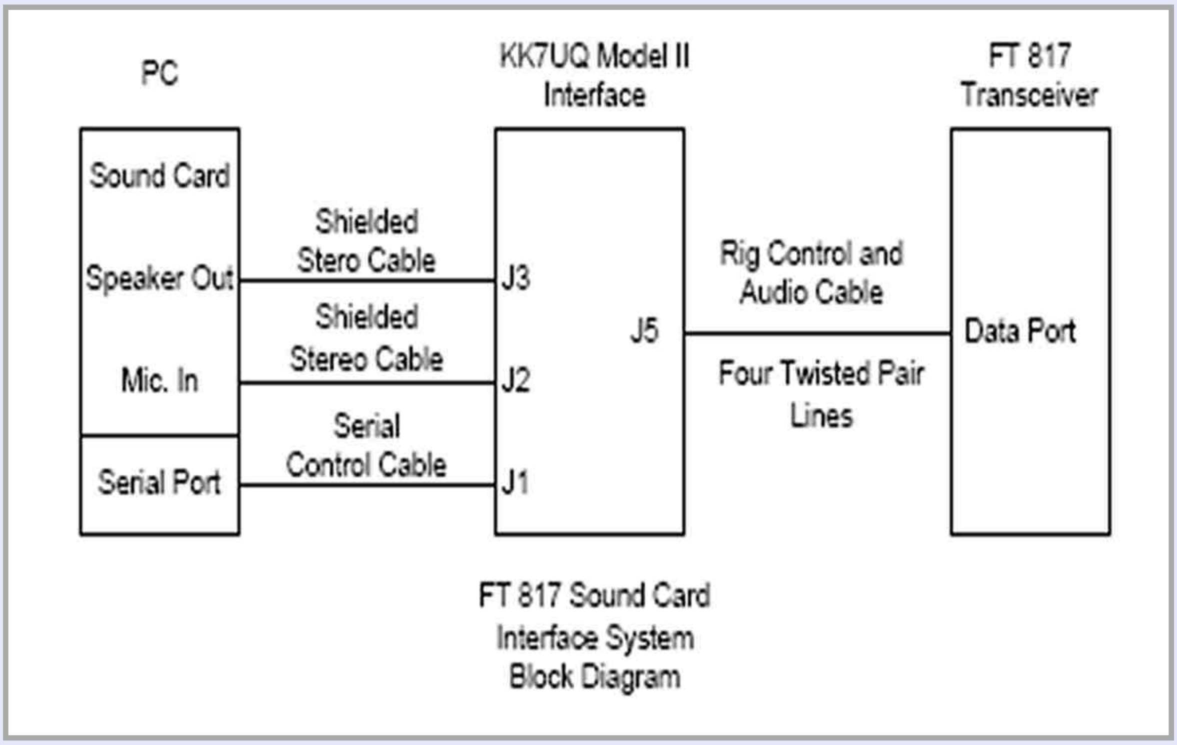
Test Setup The following equipment and software was used during testing. Web references (in blue) are included to find more information about these products.

- * Rig Yaesu FT-817 Transceiver
- * Interface KK7UQ Model II Interface kk7uq.hfradio.org/index.htm
- * Computer Desktop or Laptop PC with Sound Blaster 16 compatible
- * Sound card and one serial interface port

Software MixW32 Ver. 2.08	www.nvbb.net/~jaffejim/downloads.htm
PSK Deluxe	hrd.ham-radio.ch/downloads.html
Hamscope	www.qsl.net/hamscope/
Digipan	www.digipan.net

Interconnections

The FT-817 Transceiver is connected to the PC Sound Card and Serial Port via the Sound Card Interface System. A block diagram is shown below. Modulated audio from the PC is delivered to the interface via a shielded stereo audio cable, transformer isolated and attenuated to appropriate levels, and then connected to the FT-817 Data Port via a twisted pair line. Audio from the FT-817 is sent to the interface via another twisted pair line, transformer isolated, attenuated and then connected to the Sound Card microphone input via a shielded stereo cable. PTT control for the rig originates in the serial port RTS line and connects via a serial control cable to the interface. It is isolated with an opto-isolator whose output is used to drive the PTT line of the FT 817 via another twisted pair line.



Interface

The schematic diagram of the KK7UQ Model II interface is shown next page. Features of this interface include: Full isolation between the transceiver and the PC using transformers on the audio path and opto-isolators on the control path.

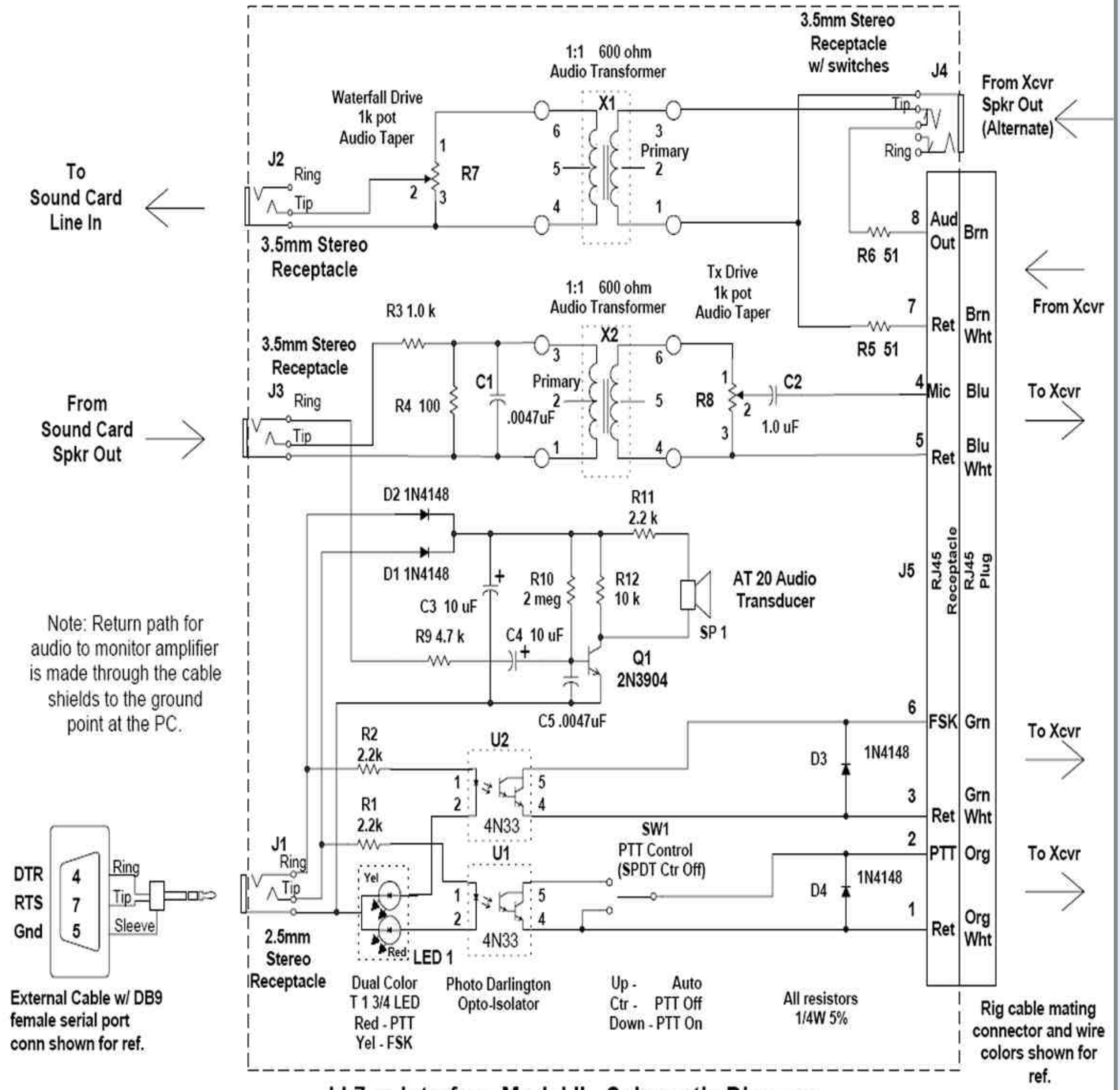
Level control of transmit and receive audio using audio taper potentiometers with external knobs for easy control of level when operating. The 10:1 Output signal level reduction to ensure that the signal level does not exceed the maximum level 1.0v p-p specified by Yaesu.

Built in audio monitor with speaker so you can hear the signal being transmitted. No external power supply required - all power needed for the audio amplifier is derived from the RS232 control signals.

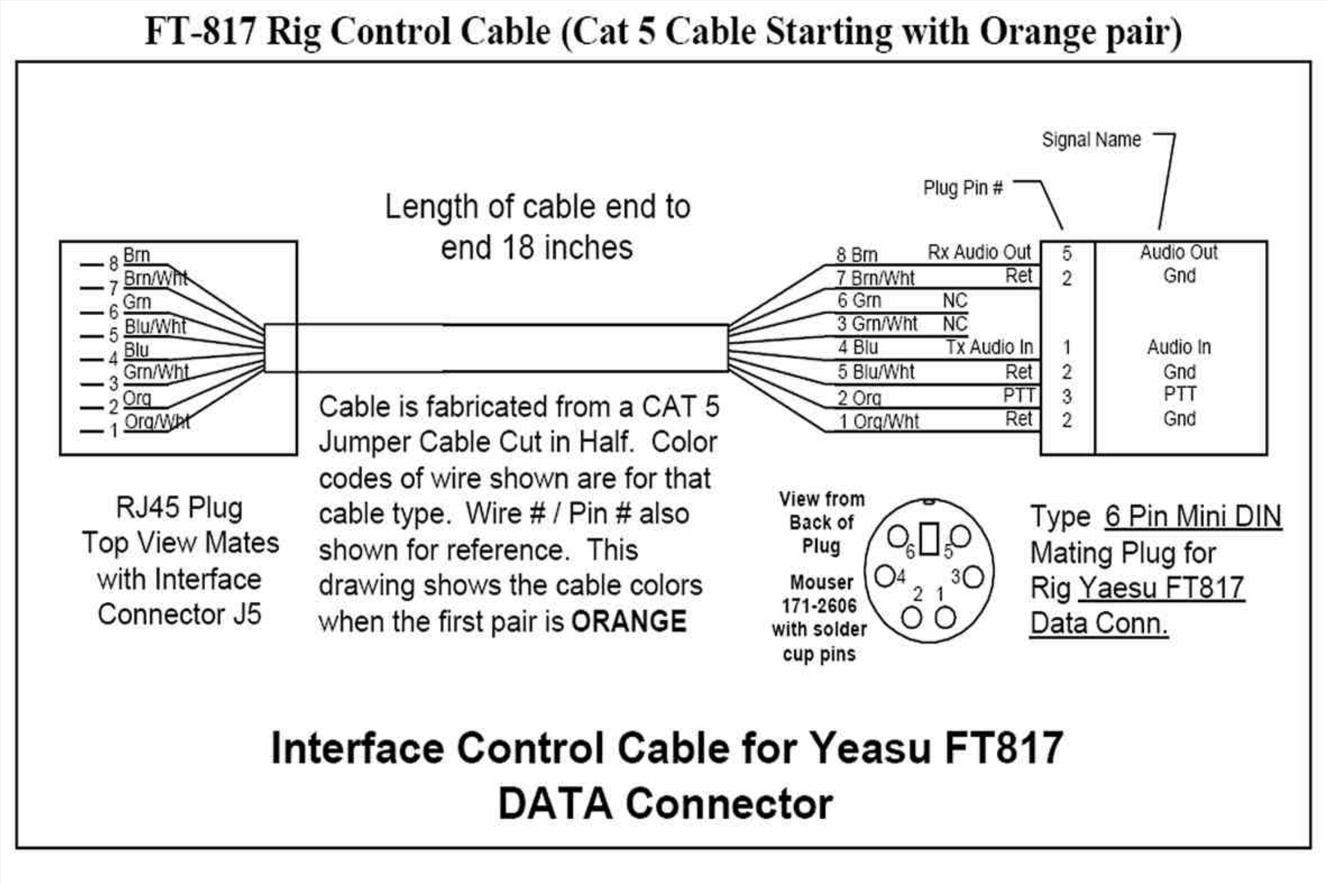
Small, lightweight design - ideal for portable use, the entire circuit fits inside an Altoids (c) box.

Rig Control Cable

The Rig Control Cable connects the interface to the FT 817 Data (6 pin mini-DIN) connector. The connector used to mate with the Data Port of the FT 817 is a 6 pin mini-DIN with solder cup contacts, Mouser part number: 171-2606. A CAT 5 jumper cable, cut in half is used to build this cable. The color coding of the wires in these cables comes in two versions: those that start with an Orange pair, and one that starts with a Green pair. Both are shown next page. Check the cable before wiring.



kk7uq Interface Model II - Schematic Diagram

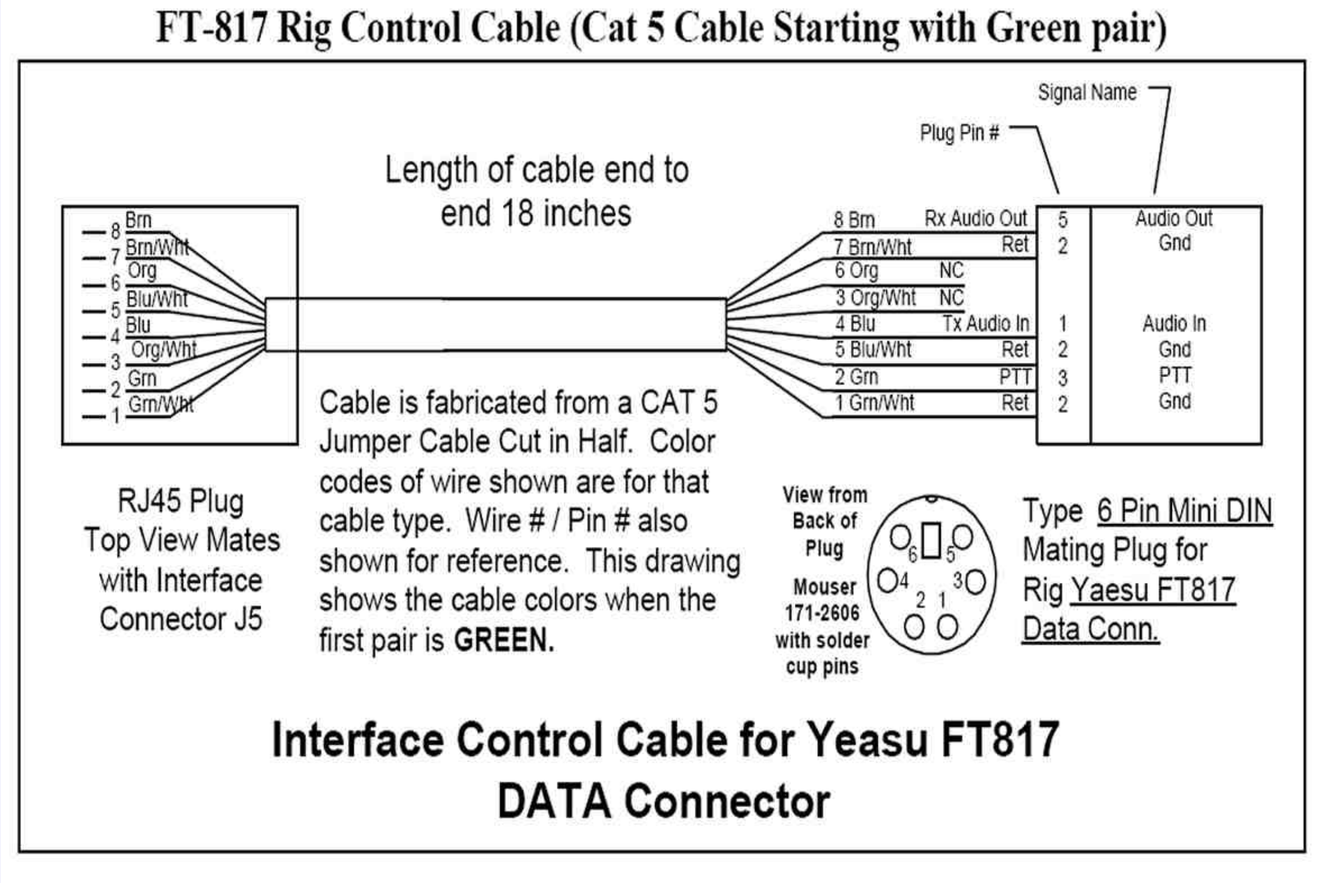


FT-817 Rig Control Cable (Cat 5 Cable Starting with Orange pair)

Cable is fabricated from a CAT 5 Jumper Cable Cut in Half. Color codes of wire shown are for that cable type. Wire # / Pin # also shown for reference. This drawing shows the cable colors when the first pair is **ORANGE**

Interface Control Cable for Yeasu FT817 DATA Connector

Length of cable end to end 18 inches
8 Brn
7 Brn/Wht
6 Grn
5 Blu/Wht
4 Blu
3 Grn/Wht
2 Org
1 Org/Wht
RJ45 Plug Top View Mates with Interface Connector J5
Signal Name
Plug Pin #
8 Brn Rx Audio Out 5 Audio Out
7 Brn/Wht Ret 2 Gnd
6 Grn NC
3 Grn/Wht NC
4 Blu Tx Audio In 1 Audio In
5 Blu/Wht Ret 2 Gnd
2 Org PTT 3 PTT
1 Org/Wht Ret 2 Gnd
View from Back of Plug
Mouser 171-2606 with solder cup pins
6 5 4 3 2 1
Type 6 Pin Mini DIN Mating Plug for Rig Yaesu FT817 Data Conn.



FT-817 Rig Control Cable (Cat 5 Cable Starting with Green pair)

Cable is fabricated from a CAT 5 Jumper Cable Cut in Half. Color codes of wire shown are for that cable type. Wire # / Pin # also shown for reference. This drawing shows the cable colors when the first pair is **GREEN.**

Interface Control Cable for Yeasu FT817 DATA Connector

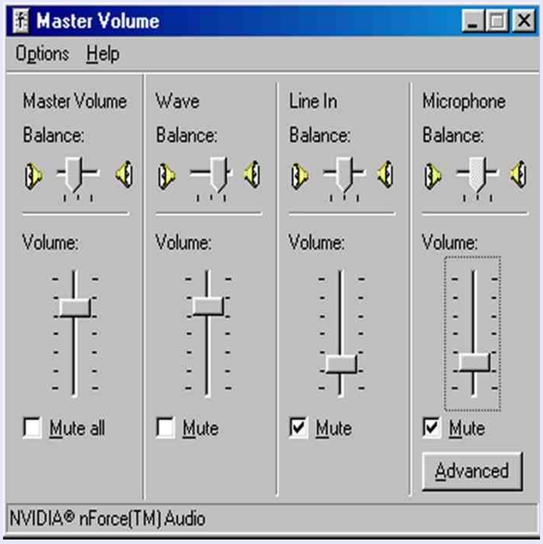
Length of cable end to end 18 inches
8 Brn
7 Brn/Wht
6 Org
5 Blu/Wht
4 Blu
3 Org/Wht
2 Grn
1 Grn/Wht
RJ45 Plug Top View Mates with Interface Connector J5
Signal Name
Plug Pin #
8 Brn Rx Audio Out 5 Audio Out
7 Brn/Wht Ret 2 Gnd
6 Org NC
3 Org/Wht NC
4 Blu Tx Audio In 1 Audio In
5 Blu/Wht Ret 2 Gnd
2 Grn PTT 3 PTT
1 Grn/Wht Ret 2 Gnd
View from Back of Plug
Mouser 171-2606 with solder cup pins
6 5 4 3 2 1
Type 6 Pin Mini DIN Mating Plug for Rig Yaesu FT817 Data Conn.

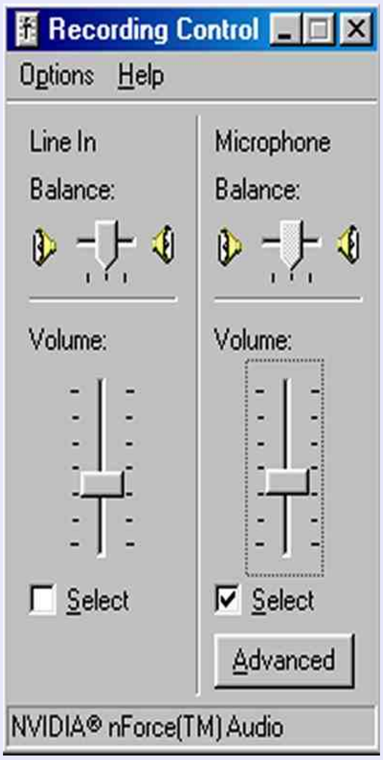
Menu Setups in the FT-817 The FT-817 menu system must be accessed to set appropriate values for functions used for Digital Sound Card modes. These are enumerated below:

Menu 26	Dig Mode	PSK31-U Sets to USB		change from default
Menu 25	Dig Mic	50 Sets dig mic gain to 50%		default
Menu 24	Dig Disp	0 0 Hz offset		default
Menu 27	Dig Shift	0 0 Hz shift		default
Menu 38	Op Filter	OFF Turn off any filters		default
Menu 55	USB CAR	0 USB Carrier offset to 0		default
Op row 9 sw A	PWR MET		Set Power output FULL (no icon)	
Op row 9 sw B	PWR MET	pwr	Set meter to display power	
Op row 8	NB AGC sw B	fast	Set AGC to fast	
Op row 8	NB AGC sw A		Set NB off	
Clarifier	(RIT) OFF (0 offset)			

PC Output

Volume Control Panel The PC Sound Card controls are used to set the level out of the PC for the audio output sent to the rig. Select this panel from your operating software Configure/Output Volume menu. The software control panel should look like the figure below. The Sound Card WAVE function is used to generate the signal to be sent to the rig. ONLY the WAVE and Master Volume control are used - all others should be muted. Under Options on this panel, view Properties, and check all sources to verify that ONLY the microphone input is selected, then reduce the size of the panel to display the Master Volume, Wave, Line In and Microphone. The Line In and Microphone are kept in view so that you can easily check that they are muted, since other programs may change the value of these controls when used. An example of this panel is shown below.





Input (waterfall) Control Panel

The PC Sound Card Recording Control is used to set the internal level of the audio received from the transceiver. Select this panel from your operating software Configure/Waterfall Volume menu.

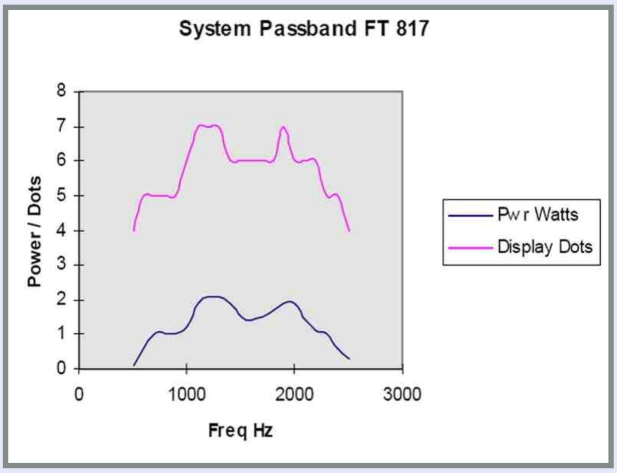
The example uses the microphone input as the waterfall port for this application. Select ONLY the microphone for input. Under Options on this panel, view Properties, and check all sources to verify that ONLY the microphone input is selected, then reduce the size of the panel to display the Line In and Microphone as shown below.

Operating Passband - Transmit

The pass band of the transmit audio system is shown in the chart below. The data for this chart was taken with a fixed value of the output potentiometer on the interface, and fixed values of gain on the sound card output and digital microphone gain within the transceiver. The chart shows that the effective pass band extends from about 700 to 2200 Hz. Substantial roll off occurs above and below these frequencies. In addition, the shape of the pass band curve in the operating range is anything but flat.

When switching from band to another, the audio level required to produce a given power output will also vary substantially. The output level control knob on the interface allows quick and accurate adjustment to control the output power to your particular requirements when operating in all of the digital modes.

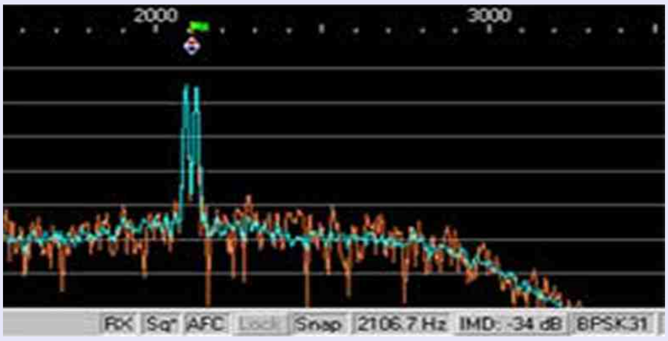
It is very important to keep this chart in mind. If you try to operate in the area above or below the pass band, you may have to increase the drive level substantially to get the desired power output - this will result in a audio overdrive condition - causing distortion of the output. See the following sections for a discussion of proper level setting. If the station that you want to contact is outside the pass band, move the transceiver frequency control up or down 1 KHz (or more) to bring the station inside the operating area. The two lines on the chart show power output represented in two ways. Pwr Watts is output measured on a power meter, measured in watts. Display Dots shows the number of dots displayed on the FT 817 PO display at the corresponding power level.



Caution Against Overdriving the Audio to the Rig

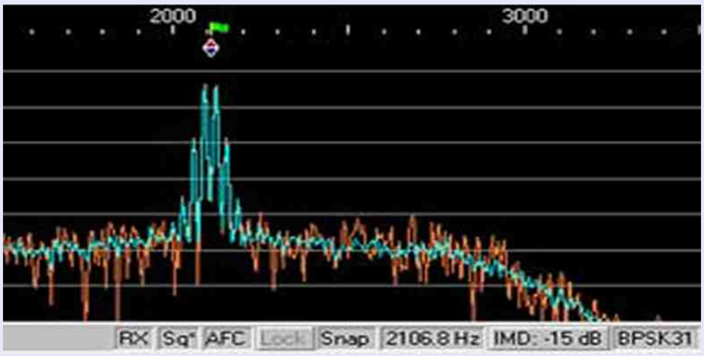
When operating in digital sound card modes, and PSK31 in particular, it is important that the audio drive level be such that it is operating in a linear range inside the FT-817. Too much drive will activate the ALC system which is highly non-linear; the resulting non-linearity will cause severe distortion of the output signal with excessive output power in unwanted harmonics of the fundamental signal. Two pictures are presented below. One is of a system properly adjusted for audio level, with a very clean PSK31 signal occupying about 31 Hz of band width. The other, is an example of an overdriven signal, causing harmonics at band widths of 93 Hz and beyond. The measurement system used to obtain these readings is a second rig and computer, operating the MixW ver. 2.08 software in Spectrum display mode. The test FT-817 is operated at 2.5 watt peak output power, and is connected to a G5RV antenna using an MFJ 969 tuner. The Inter Modulation Distortion (IMD) measurement is done by the MixW software on the second receiver. The IMD measurement is taken by measuring the energy of the signal at the fundamental of ±15.63 Hz and comparing it to the level at the third harmonic ±46.88 Hz. The IMD value is in -dB comparing the fundamental to the third harmonic. For example, an IMD of -34 means that energy of the harmonic at ±46.88 Hz is 34 dB down from the fundamental at ±15.63.. In this case it is near the noise level of the system. If the IMD were at -15 dB, the energy at the third harmonic is only 15 dB below the fundamental. A good operating number to shoot for is 24 dB down or more. 24 dB represents about 4 S units on the rig. A properly adjusted FT817 PSK system should produce IMD of -30dB or better.

Example 1 - Properly Adjusted Audio Level



This example is of an FT-817 operating in PSK31 mode. The signal is Idling (no typing, output buffer empty) at 2.5 watt peak output power. FT-817 Power menu setting is FULL. PO reading is at 5 dots. ALC is showing few (0 to 2). Measured IMD of -34db (excellent) and no visible side harmonics on the signal. The blue trace on the display is a smoothed (averaged) version of the orange (non smoothed) trace. The horizontal lines are 10 dB apart.

Example 2 - Overdriven Audio Level



This example shows the FT 817 PSK31 in Idle at 2.5 watt output. Power out setting is Liii. PO reading at 5 dots. ALC showing at 5 dots. Note IMD of -15db (bad) and two visible side lobes of signal on each side of the main signal. The problem with using the Liii level setting is that the output peaks near 2.5 watts with no ALC showing. Continued increase of the drive level does not increase the power output very much, but the ALC levels start to rise, causing non linearity in the audio path of the FT 817 and degradation of the radiated signal. When overdriving the audio, the useful part at ±15.63 Hz is somewhat reduced, while some of the energy is shifted into the harmonics. This also causes interference to other stations on the band by increasing the used bandwidth from 31 Hz to 93 Hz or more. It is better operating practice to set the rig power output control to FULL, and control the actual output level by using the Transmit Level control on the interface to set the actual power output to 2.5 watts or less. That way, you can monitor one display on the rig and still be operating in the linear range. It is a good idea, however, to periodically check the ALC level to be sure that you are not activating that system.

If you need to operate at Liii, because you are on battery, or you just want to be sure that you are not running your rig with too much power, an alternative is to monitor your IMD with an instrument such as the IMD Meter (http://kk7uq.com/) or a PSK Meter (www.ssiserver.com/info/pskmeter/) while you are transmitting to ensure that your system is clean.

Recommended Operating Procedure

As shown in the previous discussion, the system audio must be operated in the linear area when transmitting. Use your power meter to ensure that you are operating at no more than ½ of the rated CW output - in this case at 2.5 watts or less. This will ensure that you are in the linear area of the audio system. This also ensures that the rig is not being operated at too high a power level which may damage the rig output amplifier. When observing power, use the PEAK number shown - either on the rig power display (dots) or on a meter. PSK operates at about 80% duty cycle when sending data. A bit lower when idling. Other modes such as RTTY, MFSK and others operate at 100% duty cycle.

During testing, for all contacts done with the FT 817, the rig was operated at about 1 watt peak output power with good success on finding and maintaining contacts on 20 meters.

It is a good idea, especially when first operating in PSK mode, to ask the station you have contacted for an IMD reading. A well adjusted station will have IMD numbers of 24db down or more. One note of caution about IMD readings: The method used in the software compares the energy at the fundamental at ±15.63 Hz to the third harmonic at ±46.88 Hz. If your signal is being received at levels near the noise level the number reported to you will be lower than the “real” number. Try to get reports from stations where you have reasonable signal level, say S5 or better. IMD measurement can only be taken when you are in IDLE mode when transmitting. IDLE is defined as no typing, and an empty buffer. This produces a 31.25 Hz wide signal on the system. One other note about IMD, f you are giving a report to another station. If it is really strong - above S9, the number displayed on your screen may not be accurate. Reduce the RF level control of the signal until the signal level on the waterfall display starts to drop. The value of IMD will probably improve because you have removed the possibility of flat topping in the front end of the FT817, or the Sound Card input A/D converter.

Modes of Operation

Most of the discussion to this point has been on the BPSK31 mode. Many other modes are available to you with software available off the Web. The same setup that you use for BPSK31 is used for these modes. Follow these rules when operating other modes (except for 80 and 40 meter SSTV see note next page):

Use a peak output level of 2.5 watts or less on all of these modes. Stay within the operating pass band (700Hz to 2200Hz) Operate with NO ALC showing. Use the DIG mode on your FT-817 (PSK USB)

RTTY - When operating RTTY, the Yaesu manual recommends that you use RTTY - Lower. Don’t do that. Use PSK Upper for this mode. All of the software used for RTTY with sound cards is set up for USB operation. Also, you don’t have to operate at the “normal” offsets of 2100 Hz for RTTY, you can set the offset at around 1200 Hz and the resulting signal will be the same. The frequency that you are actually transmitting will be the base frequency set on your FT-817 display plus the audio offset (1200 Hz). MFSK16 - this mode is a very effective mode for QRP work. It excels on contacts at low Signal to Noise ratios, and on connections with Multi Path distortion such as long DX or polar paths.

SSTV - Slow Scan TV is a special case for digital work. SSTV contacts are normally initiated with a voice contact, identifying the station and the mode to be used. The SSTV data is sent after this voice setup. The SSTV areas are in the phone part of the band, and follow the normal rules for USB or LSB operation which are band sensitive for phone. (80 and 40 are LSB, others are USB). The design of the FT-817 is such that if you are using the microphone, you must be in either LSB or USB mode for the mic to be active. When you transmit using the Data Port, you must be in DIG mode. Hence you must switch modes on the panel of the FT-817 between phone and DIG. If you are operating on 80 or 40, then set DIG to PSK-L and phone on LSB. On other bands, use PSK-U and USB. The frequency chart on the next page shows the assigned frequencies for SSTV operation.

CW from the computer - the rig can be operated in CW mode using the sound card to generate the signal. Set up your operating software to “CW Out Using Soundcard” set the cursor on the waterfall at 1000 Hz. This will generate signals at the rig base frequency plus 1 KHz, and produce a side tone when listening of 1 KHz. Use your waterfall display and move the frequency dial on your rig to bring desired signals to the 1000 Hz point on the display. Your transmitted signal will be right on frequency. The CW data detection of the software is “fair” - use it on strong signals with an operator with a good fist. You will not be operating in break in mode - the receiver is off until you return to the RX mode.

CW modes using the key or paddle - some operators prefer to use the key or paddle when transmitting, and use only the computer in receive mode as a tuning aid, and as a back up for copying CW. If this is your mode of operation, set the mode to CW. You can still see the signal on your waterfall display. You just won’t be able to transmit code under computer control.

Optional Filter Use - If you have the optional 500 Hz filter available, set it for use in the SSB mode and use the Pass Band Tuning on the rig to center the filter over the signal of interest on the waterfall. For PSK operations, the filter is normally not needed and you are better off with the full bandwidth display. For CW operation, since you are probably copying the code from the audio, the filter can be very useful.

Web Links Listed below are links to useful web pages having to do with Amateur Radio.
See also : www.kk7uq.com for updates to this list.
URL Author Comment
www.psk31.com K1VY Neil Rosenburg's website for psk31
www.qsl.net/wm2u/interface.html WM2U Ernie Mills very complete psk31 site
www.K1DWU.net/ham-links K1DWU 4500 Ham-Links
www.teleport.com/~nb6z/ NB6Z Griff's Digital and Antenna pages
www.ssiserver.com/info/psk31 KF6VSG "PSK-31 101", Excellent presentation given to Pacificon
www.kv7x.com KV7X Station set up for Digital Use with excellent section on Pegasus/Jupiter
www.ham-radio.ch/ PE1MHO Interface and Software for FT817 Applications

Frequencies for Various Digital Modes

Band	BPSK31 BPSK63 MFSK16,	Throb, Helleschreiber QPSK31 MT63
80 meter	3.580 MHz USB	3.580 MHz USB
40 meter	7.070 MHz USB	7.037 MHz & 7.080 MHz USB
30 meter	10.139 MHz USB	10.147 MHz USB
20 meter	14.070 MHz USB	14.080 MHz USB
17 meter	18.095 MHz USB	18.104 MHz USB
15 meter	21.070 MHz USB	21.080 MHz USB
12 meter	24.920 MHz USB	24.929 MHz USB
10 meter	28.120 MHz USB	28.080 MHz USB

SSTV
80 meter 3.845 MHz LSB (voice & SSTV) use LSB for voice DIG-L for SSTV
40 meter 7.228 MHz LSB (voice & SSTV) use LSB for voice DIG-L for SSTV
20 meter 1 14.230 MHz USB (voice & SSTV) use USB for voice DIG-U for SSTV
20 meter 2 14.233 MHz USB (voice & SSTV) use USB for voice DIG-U for SSTV
15 meter 21.340 MHz USB (voice & SSTV) use USB for voice DIG-U for SSTV
10 meter 28.680 MHz USB (voice & SSTV) use USB for voice DIG-U for SSTV

Modes are listed here:

Program	***Web URL***	***Modes supported***
Digipan	www.digipan.net/	PSK31, PSK63
Hamscope	www.qsl.net/hamscope/	PSK31, MFSK16, RTTY & CW
Stream	iz8bly.sysonline.it/Stream/streamsetup.exe	PSK31, MFSK8, MFSK16
MixW	www.mixw.net/	FSK31, PSK31, PSK63, MFSK, RTTY, CW, Throb, SSTV, Packet, Pactor, Amtor, MT63, Helleschreiber, Fax

***Note**: MixW is the only software with a user fee ($50 one time). It is a very complete package, covering all the digital modes in one package*.

MMSSTV	www.qsl.net/mmhamsoft/mmsstv/	SSTV
MMTTY	www.qsl.net/mmhamsoft/mmtty/	RTTY

The RTTY engine used in MMTTY is also used in Hamscope and other software PSK Deluxe
www.ham-radio.ch/
HB9DRV PSK31, PSK63 Also integrated FT-817 CAT & PSK31/63 packages available

WinPSK	www.qsl.net/ae4jy/	PSK31
Winwarbler	www.qsl.net/winwarbler/	PSK31, RTTY
W1SQLPSK	www.w1sql.com/	PSK31
Zakanaka	www.qsl.net/kc4elo/	PSK31

The popular Logger program is integrated with the Zakanaka software

Acknowledgments: Thanks to Chris Jones, N7ZW, for loan of equipment, elmering on operation of the FT-817, and getting me hooked on QRP/PSK with the FT817.

Best 73's ! KK7UQ

DX NEWS
From the Web (opdx)

4M200/YV200/YW200, VENEZUELA (Special Event)

Look for several different stations to be active until December 31st, to celebrate the 200th anni- versary of Venezuela's Independence. Some of the stations that have been active are:

4M200AJ - Operator Manuel; Activity mainly on PSK on 40/30/20/15/10m; QSL via YV5AJ.
YV200D - Operator Paolo; Activity mainly on RTTY on 30m; QSL via YV1DIG.
YW200A - Operator Alfredo; Activity on PSK and SSB on 20/15m; QSL via YV5SSF.
YW200ER - Operator Elvis; Activity on SSB on 40/20/15m; QSL via YV8ER.
YW200L - Operator Frank; Activity on RTTY and PSK, on 30/15m; QSL via YV5LI.
YW200T - Operator Juan; Activity on SSB, RTTY and PSK, on 40/30/20/15m; QSL via YV5JBI.

A "Bicentenary of Venezuelan Independence Award" is available by working all the 6 special callsign: 4M200AJ, YV200D, YW200A, YW200ER, YW200L and YW200T. More information is expected to be available at: http://www.radioclubvenezolano.org/concurso.htm

8Q, MALDIVES

Ron, DL5JAG, will be active as 8Q7SR and on holiday from Embudu Island, South Male Atoll (AS-013), between May 8-23rd. No other details were provided. QSL via his home callsign, direct w/SAE and proper postage for return. Log will be uploaded to LoTW 1-2 months after his holiday, and for eQSL.cc about 1 month. Also, he does mention to visit the following Web page: http://www.protectthemaldives.de

AFRICAN TOUR

Operators Les/W2LPL and his son Daniel/W2DBL will be active as ZS6/homecall from South Africa between August 11-15th. Activity will be on the HF bands, mainly SSB. They will also be active as A25/homecall from the Tuli Bloc, Botswana, between August 16-19th. Activity will be the same as above. QSL via their home callsign (QRZ.com address).

BW, TAIWAN

Yoshihiro, JK2VOC, will be active as BW2/JK2VOC between June 18-20th. No other details were provided. QSL direct to his home callsign.

CO, CUBA

Members of the Cubans Amateur Radio Federation (CO2FRC) will be active during the Volta Contest (May 8-9th) as a Multi-Multi entry. Operators mentioned are: Gustavo/CO2NO, Lazaro/CO2WL, Jesus/CO2IZ and Winston/CO2WF.

HS8, THAILAND

Wut, HS8JYX, will be active during the CQWW WPX CW Contest (May 29-30th) as a Single-Op/Low-Power entry. QSL via HS8JYX, direct, by LoTW and eQSL. Visit his Web page at: http://www.hs8jyx.com

HB0, LIECHTENSTEIN

David, OK1FJD/OK6DJ, will be active as HB0/OK6DJ/P between June 3-6th. His activity will include the IARU Region 1 Fieldday Contest. He will use a Kenwood TS480hx into a G5RV and dipole antennas. QSL via OK1DRQ, by the Bureau or direct. Also QSL via LoTW.

S7, SEYCHELLES (AF-024)

Marq, CT1BWW, has announced that he will be active as S79BWW between July 17-31st. He states that the main purpose of this activity is to be the first official WFF (World Flora Fauna) DXpedition on Seychelles -- reference number WFF004. Activity will be on 80-10 meters (operating split) using CW, SSB and RTTY. Suggested frequencies are:

CW - 3507/3527, 7050/7055, 10117/10119, 14006/14054, 18084, 21021/ 21054, 24897 and 28007/28027 - SSB - 7060 (listen above 7200 for NA), 14145/14260, 18140, 21260 and 28477
RTTY - 10137, 14080, 21080 and 24977 kHz

QSL via, CT1BWW, by the Bureau or direct. This operation will be valid for DXCC, WAZ, WAC, WPX, IOTA, WFF, ZONE 39 and the BWW Award. For more details, look at: http://www.ct1bww.com/s79bww

TK9, CORSICA

Members of the the Valle Brembana DX and Contest Team will be active as TK9E between May 2631st. Operators mentioned are: Enzo/IZ2GLU, Fabio/IZ2GMT, Andrea/IZ2AJE, Diego/IW2MZX and Claudio/IK2AOO. Activity will be on 80-10 meters including 30/17/12 meters. QSL via IZ2GLU. For more details, see their Web page at:
http://www.radioamatori.vallebrembana.org/vbdxc/Spedizioni/Corsica_2010/TK9E.htm

TL, CENTRAL AFRICAN REPUBLIC (Also News About 5U)

Jan, DJ8NK, informs OPDX that Paul, F6EXV, and he will be active as guest operators from Christian's, TL0A, station between May 13-26th. They plan to have 2 stations on the air simultaneously. Look for Jan to focus his activities on RTTY, while Paul will be on CW. Chris will continue his SSB operation and CW/RTTY from time to time after May 26th. Bands of activity will be on 40-6 meters, maybe some 160/80m (it is late in the season for the low bands, plus it is the rainy season in TL with daily storms). Operators will use standard DX frequencies, and always run "SPLIT".

TM24, FRANCE (Special Event)

Look for TM24H to be active between May 30th and June 13th, to celebrate the 78th edition of the "Le Mans 24 Hours" car race. Activity will be on the HF, VHF and 50 MHz bands using CW, SSB, PSK and RTTY modes. A special QSL card will be printed. QSL Manager is F6KFI. Take a look at the interesting collection of QSL cards for this event at: http://pagesperso-orange.fr/bruno.martineau/radio/24h00.htm

VK4, AUSTRALIA (WFF Op!)

Operators Gary/VK4FD and Dale/VK4DMC will activate Undara Volcanic National Park (WFF VKFF-506, GL: QH21HS) from Australian Mainland as VK4YN between 0000-2359z, May 21-23rd. Suggested frequencies are per the WFF website +/- QRM. Antennas are: a 4 element tri-band Yagi 10/15/20m, double extended zepp 40m, and G5RV for 80m and the WARC bands. QSL Manager is VK4FW, fastest way is via OQRS at: http://www.odxg.org

ZA, ALBANIA

Chris, HG5XA, will be active as ZA/HA5X from the town of Orikum and a beach on the Bay of Vlora between June 10-24th. Activity will be holiday style, but he plans to activate some lighthouses and/or WFF locations. Please listen to the operator's comments for possible Lighthouse and WFF references, if any. Chris will also focus on some 6 meters and portable battery operations. Also, please remember that this is not a DXpedition, but a family holiday with his XYL Marta, ZA/HA9WM, and twin 5 year old daughters. Operating times will be limited and of lower priority. QSL via LoTW and eQSL. If possible, please DO NOT send QSL cards. Paper QSLs will be available both direct and by the Bureau using the OQRS (Online QSL Request System) to be launched and announced later. Bureau cards will be sent out using GlobalQSL.

SM3CVM Presents :

SM3CVM DX-kalender

THE DXCALENDAR

1/5 - 27/5 GREENLAND; OX/K0KU NA-018
from Thule by N0RC. Activity will be limited as work permits, but he plans to be on every other day and try to get on the air for contest weekends, but he cannot guarantee this. Look for the log to be uploaded to LoTW and EQSL. QSL direct to N0RC or by the Bureau.

2/5 - 7/5 OGASAWARA; JD1BLY AAS-031
from Chichijima Island by JI5RPT. Activity will be on 40-6 meters (No 6m EME) using CW, SSB, Digital and the Satellites. QSL via his home callsign JI5RPT. A log search will be available on his Web site at http://www.ji5rpt.com/jd1/

2/5 - 14/5 OGASAWARA; JD1BMH AS-031
from Chichijima Island by JG7PSJ. Activity will be on 40-10 meters (possibly 80m) using CW, SSB and the Digital modes. QSL via his home callsign. Visit his Web page for more details at http://sapphire.es.tohoku.ac.jp/jd1bmh/index.html

13/5 - 16/5 NEW CALEDONIA; FK/W3HQ OC-033
from Lifou, Loyalty Islands by W3HQ and VK2DON. Their activity will be on 40/30/20 meters using CW only. QSL via W3HQ.

18/5 - 19/5 SAMOA; 5W0OX OC-097
by UX0HX, RK3FA, UR3HR, US7UX, UT1HF and UT5UY. They will operate CW, SSB and digital modes on 160-10 metres. QSL via UR3HR, direct or bureau. More information, including details on how contribute to the expedition, at htpp://www.uz1hz.com/pacificodyssey.html

19/5 - 23/5 ST. PIERRE & MIQUELON; TO2FH
by a team of Brazilian operators. More details are forthcoming.

20/5 - 23/5 TURKS & CAICOS; VP5/PY2WAS NA-002
from Providenciales. He might be joined by PY1YB. Expect activity in 80-10 metres CW and SSB. QSL via PY2WAS, direct or bureau.

22/5 - 1/6 C. KIRIBATI; T31X and T31UR OC-043
by UX0HX, RK3FA, UR3HR, US7UX, UT1HF and UT5UY. They will operate CW, SSB and digital modes on 160-10 metres. QSL via UR3HR, direct or bureau. More information, including details on how contribute to the expedition, at htpp://www.uz1hz.com/pacificodyssey.html

24/5 - 31/5 LORD HOWE I; VK9CLH
by VK2CCC (LY1F). Activity will be limited to his spare time on 160/80 meters, and he plans to participate in CQ WPX CW Contest (May 29-30th). QSL cards will be available via an "Online QSL Request System" at the following Web page. QSL by other methods such as LoTW and by the Bureau or direct are via VK2CCC. For updates and possibly more details, visit http://www.qrz.lt/ly1df/vk9clh.htm

27/5 - 31/5 NICARAGUA; YN2GY
by K9GY from YN2N, QTH in Grenada, during the 2010 CQ WPX CW Contest (May 29-30th) as a Single-Op/All-Band/Low-Power entry. Outside of the contest, look for CW activity on 30/17/12 meters. Also look for him on 6 meters. QSL via LoTW or to his home callsign, direct or by the bureau.

28/5 - 6/6 PALESTINE; E4X
by EA5RM and the Tifariti Gang (EA2RY, EA5FX, EA7AJR, EA7KW, F5CWU, F6ENO, F9IE, IN3ZNR and UT7CR). They plan to operate CW, SSB and RTTY on 160-6 metres, with at least three stations active at the same time on different bands and modes. QSL via EA5RM. The website for the expedition is at http://www.dxfriends.com/e4x/

2/6 - 6/6 TOKELAU IS; ZK3X OC-048
by UX0HX, RK3FA, UR3HR, US7UX, UT1HF and UT5UY. They will operate CW, SSB and digital modes on 160-10 metres. QSL via UR3HR, direct or bureau. More information, including details on how contribute to the expedition, at htpp://www.uz1hz.com/pacificodyssey.html

3/6 - 9/6 WESTERN KIRIBATI; T30XG or T30/T32XG
by JA1XGI/W8XGI. Activity will be on 40-6 meters, including 30/17/12m, using CW and the Digital modes. QSL via JA1XGI, direct or by the Bureau.

5/6 - 25/6 MALDIVES; 8Q7TB
from Embudu by PF4T. Activity will be on 40 and 20 meters using SSB, RTTY and BPSK31. He will also try 17/15/10 meters and says "Working conditions will be very simple consisting of 100 watts PEP from an Yaesu FT897d transceiver. The antenna will be a Windom FD4 80-40-20-17-15-10 meters and an Inverted V G5RV 40-20 meters. The Inverted V will be 20m suspended from the top of the coconut palms approximately 10 meters from the sea." QSL via PF4T direct for a quick reply or by the Bureau via PA0LEY or PF4T. Visit his Web page at http://8q7tb.pf4t.nl/

9/6 - 18/6 BRAZIL; PW8J and PW8L SA-041 SA-016
from Ilha dos Lencois and the island of Sao Luis by PY7ZY, PY2XB, PY7XC and PY0FF. They plan to have three stations with two amplifiers, verticals and wire antennas. On 16-18 June they will operate as PW8L from the island of Sao Luis. QSL to P.O. Box 152, Joao Pessoa - PB, 58010-970, Brazil. The website for the expedition is at http://www.pw8j.com/

10/6 - 17/6 TURKS & CAICOS IS; VP5/WB2REM and VP5/KD2JA NA-002
from Providenciales Island (Grid FL31VS) by WB2REM and KD2JA will be operating with the special callsign VQ5M during the ARRL June VHF Contest (June 11-13th). Operation for the contest will be on 6 meters CW and SSB only. Outside contest, look for them to operate on 160-6 meters using CW and SSB. QSL via KD2JA.

July RUSSIA; WRTC 2010
WRTC Championship Competition is being held in Moscow, Russia, this coming July 2010. This time, teams will be set up in tents with generators supplying the power. Special new rules will allow both operators to make contacts in a modified form of SO2R with interlocked radios - meaning only one signal at a time is permitted on the air.

5/7 -14/7 ST. PIERRE & MIQUELON; FP/homecall NA-032
from Miquelon Island by K9OT and KB9LIE. Activity will include the IARU HF Championship Contest (July 10-11th) as two Single-Operator entries. They will operate CW and SSB on 80-10 meters with a possibility of 160m and 6m. Visit their Web site at http://www.hamradio.pnpfarms.com/
QSL via their home callsigns, direct (w/return postage), by the Bureau or LoTW.

7/7 - 22/7 MONGOLIA; JT1/IW5ELA
from Ulaanbaatar by IW5ELA and I5NOC. They plan to operate for one week from the radio club station in Ulaanbaatar. The following week, they will be operating mobile. QSL via his home callsign.

21/7 - 26/7 CANADA; VE3ZZ/VY2 NA-029
from Prince Edward Island (CISA PE-001, WLOTA 0523, WW Loc: FN76vs). He will operate from the VY2TT superstation during the RSGB IOTA Contest (July 24-25th) as VY2X, and outside of the contest. QSL both callsigns to VE3ZZ, direct or by the Bureau.

23/7 - 24/7 UNITED STATES of America; N8B or maybe N8B/P
from North Bass Island between 1200z Saturday, July 23rd and 1600z Sunday, July 24th. Suggested frequencies (on or near) are:
CW - 3530, 7025, 14040, 18098 and 21040 kHz.
SSB - 7250, 14250-260 and 28450.
Listen for QSL information by the operator.

18/8 - 1/9 ALASKA; KL7RRC and N6PYN/KL7 NA-235 and NA-239
Chirikof Island (NA-235) and Seal Islands (NA-239) by RV3ACA, N6PYN, N3QQ and UA9OBA. QSL via UA9OBA (Russia and Europe) and N7RO (rest of the world). Bookmark http://www.na-234.com/ for updates.

16/9 - 20/9 GREENLAND; OX6YL
from Kangerlussuaq by six international YLs. Activity will be on the HF bands using CW and SSB. Operators mentioned at this time: Inger/OZ7AGR, Unni/LA6RHA, Ingrid/LA8FOA, Ruth/IT9ESZ, Evelyne/F5RPB and Waltraud/DJ6US. A Web site is currently under construction at http://www.qsl.net/la6rha/greenland/

OCTOBER MOZAMBIQUE; C9
GI4FUM is planning a DXpedition to Mozambique in October 2010, to operate in the CQWW DX SSB Contest and also possibly the JOTA. Watch his Web page for updates at http://www.3da0ss.net/

OCTOBER GABON; TR
I2YSB, and a team of Italian operators will activate Gabon during the first half of October. The team also intends to activate an IOTA in the Estuaire Province Group (AF-043) during this DXpedition. An opened survey on I2YSB's Web page is now available to list your wants for bands and modes at http://www.i2ysb.com/joomla5/ More details should be forthcoming.

NOVEMBER SENEGAL; 6W/EI6DX
will once again be active from Somone, which is located 70 km southeast of Dakar. He will concentrate on the lower bands and CW and take part in the CQ WW DX CW Contest (November 27-28th) as a Single-Op/All-Band/Low-Power entry. QSL via RX3RC, by the Bureau or direct. Look for updates at http://www.ei6dx.com/

19/11 - 5/12 KERMADEC IS; ZL8X OC-039
from Raoul Island by the core team of the very successful DXpeditions to Norfolk Island in 2007 (VK9DNX) and Willis Island in 2008 (VK9DWX), plus a few high experienced operators, will be active in November. According to the preliminary schedule, thirteen operators, DJ5IW, DJ7EO, DJ9RR, DK1II, DL1MGB, DL3DXX, DL5CW, DL5LYM, DL5XL, DL6FBL, DL8OH, DL8WPX and SP5XVY expect to be QRV with seven high power stations on 160-10 metres CW, SSB and RTTY. Further information, including log search and an Online QSL Request System (OQRS) for either bureau and direct cards, can be found at http://www.kermadec.de

- 1/5 WILLIS I.; VK9WBM
 HF and 6 meter with 2 ele quad. QRV as time permits. QSL via VK4DMC.

- 11/5 KENYA; 5Z4/LA9PF
He plans to operate on all bands and modes running 100 watts into a 3-element beam or a loop. He also expects to operate as 7Q7PF from Malawi during that time frame. QSLling information at qrz.com under LA9PF.

- 15/5 PERU; OA4/DL5YWM
He plans to operate in his free time from Lima. Side trips to different call areas are possibile, as well a "last minute" operation from an island.

- 18/5 MALDIVES; 8Q7IA AS-013
by UX4UL. He operates CW, SSB and BPSK on 40, 20 and 17 metres. QSL via UY5ZZ.

- May PHILIPPINES; DU9/DL5SDF OC-130
expects to be QRV from Mindanao Island. He operates CW only. QSL direct to Hans Bohnet, Purok 5, Lower Bon-Bon, Libertad, Butuan City 8600, Philippines or via the DARC bureau to DL5SDF (bureau card requests will have to wait until June 2010, when he will go back to Germany).

- 12/7 SOUTH AFRICA; ZS1ØWCS
The next FIFA Soccer World Cup will take place in South Africa in 2010. Operations through May 31st will be only on the air over weekends. However, operations between June 1st and July 12th, will be on the air 7 days a week. Frequency band selections and times will be dependent on propagation conditions. Preferred fre- quencies are:
CW - 3510, 7010, 14010, 21010 and 28010 - SSB - 3780, 7080, 14180, 21280 and 28480 kHz
Electronic QSL cards must be sent to: wcs@sarl.org.za
All stations logged will get a special QSL card via the Buereau. Direct QSL can be sent to: PO Box 1721, Strubensvallei, 1735, South Africa. Please included a self-addressed envelope (DL size) and 1 IRC or 1 USD.

- 31/10   CANADA; VA7PX NA-075
 from Mayne Island. QSL via VE7AXU via bureau or direct.

- 2010 LEBANON; OD5/DL6SN
He plans to be active on 40-10 meters mainly on CW. Activity over the past week has been on 20/17/12 meters CW. QSL via DO8LA.

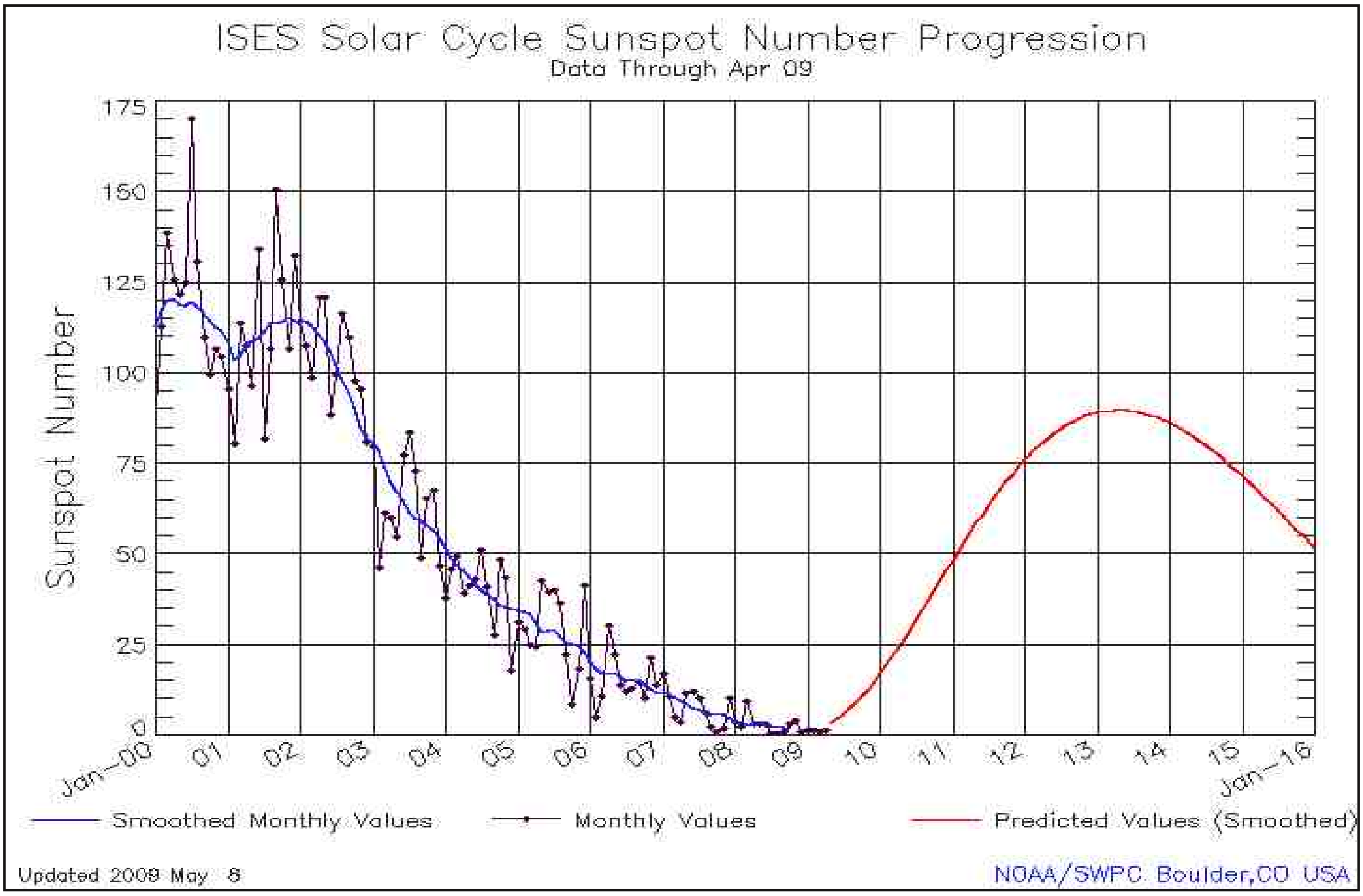
- 2010 MARSHALL IS.; V73NS OC-028
from the Kwajalein atoll by WD8CRT, who will have to work here for two years starting on Jan 5, 2009. He will work mostly in CW on 160-6m. QSL via bureau or direct to Neil Schwanitz, PO Box 8341, APO, AP 96557, USA. His website is http://www.qsl.net/v73ns/

- 2010 ANTARCTICA; R1ANP AN-016
by RW1AI. He will be active from the clubstation R1ANP. QSLs for this operation via RW1AI.

- 2010 MEXICO; 4A1B
Two hundred years of Mexican independence and the 100th anniversary of the Mexican revolution are celebrated by the Radio Club Queretaro (XE1RCQ). The special callsign 4A1B will be activated throughout the whole year 2010. The QSL manager is LZ3HI. The logs will be uploaded to the LoTW as well.

CONTESTS OF MAY

From	*To*	*Contest*	*Mode*
01-05-2010 00:00	02-05-2010 24:00	VERON SLP - Part 4	SWL
01-05-2010 00:01	02-05-2010 23:59	10-10 Int. Spring QSO Party	CW
01-05-2010 13:00	01-05-2010 19:00	AGCW QRP/QRP Party	CW
01-05-2010 13:00	02-05-2010 07:00	7th Call Area QSO Party	CW/SSB/Digital
01-05-2010 16:00	02-05-2010 04:00	Indiana QSO Party	CW/SSB
01-05-2010 20:00	02-05-2010 19:59	ARI International DX Contest	CW/SSB/RTTY
01-05-2010 20:00	02-05-2010 05:00	New England QSO Party	CW/SSB/Digital
08-05-2010 10:00	08-05-2010 12:00	EUCW Fraternizing QSO Party-1	CW
08-05-2010 12:00	09-05-2010 11:59	CQ-M International DX Contest	CW/SSB
08-05-2010 12:00	09-05-2010 12:00	Alessandro Volta DX Contest	RTTY
08-05-2010 17:00	08-05-2010 21:00	FISTS Spring Sprint	CW
09-05-2010 18:00	09-05-2010 20:00	EUCW Fraternizing QSO Party 2	CW
13-05-2010 19:00	13-05-2010 23:00	QRP - Min. Art Sess.QRPMAS	CW
15-05-2010 12:00	16-05-2010 12:00	H.M. The King of Spain	CW
15-05-2010 15:00	16-05-2010 15:00	Day of the Portuguese Navy	SSB/CW
17-05-2010 00:00	21-05-2010 24:00	AGCW Activity Week	CW
22-05-2010 12:00	23-05-2010 12:00	European PSK DX Contest	BPSK63
22-05-2010 15:00	23-05-2010 15:00	Day of the Portuguese Navy	DIGI
22-05-2010 21:00	23-05-2010 02:00	Baltic Contest	CW/SSB
29-05-2010 00:00	30-05-2010 23:59	CQ WW WPX Contest	CW



CQ Six - 50 MHz DX News
By OZ6OM

Barbuda & Antigua, V2. Randy, WD8MGZ, will be active as V25WV from Codrington Village on Barbuda between April 24th and May 1st. For frequencies and schedules, use Twitter.com and search WD8MGZ. Also contact Randy via echolink (V21RW-R). He will be using a Icom 706 and a Yaseu 2 meter mobile. For more information, use the Web site: http://home.comcast.net/~randylwilliams/site

Tunesia, 3V. Following their activity from Morocco, Alfredo, IK7JWX, will lead a team of operators to activate two IOTA islands between April 27th and May 4th. Operators mentioned are: Alfredo/IK7JWX, Leo/I8LWL, Raul/IC8ATA, Titti/IK8GQY (YL), Armando/IK8BPY, Ampelio/IS0AGY, AntoNello/IK2DUW, Rosy/IW2NLC (YL), Michele/IK2GPQ, Simon/IZ7ATN, Ruggero/IK2PZC and Stanislav/IZ2GRG. The team will air (no specific dates were provided) Djerba Island and Kuriat Island. They will used the callsigns TS8P and TS8P/p (3V8SM). Activity will be on all HF bands and 6 meters, using CW, SSB, RTTY and PSK31. QSL via IK7JWY.

Ogasawara, JD1. JD1BLY (JI5RPT) will be active from Chichijima Island Ogasawara on 40m to 6m (No 6m EME) + Satellite CW/DIGI/SSB from 2 to 7 May 2010. QSL via my home callsign JI5RPT. Logsearch will be on my website. http://www.ji5rpt.com/jd1/

Ethiopia, ET. ET3BN is Peter, DM2BBN, who will stay in Addis Abeba for the next years. He is working in CW/SSB and uses a wire pyramid for 80m, Quad antennas for 30m/17m/12m/20m/15m/10m and a logperiodic for 6m. He is not active on 40m and 160m right now. Please send your QSL cards direct to: Dr. Peter Haferkorn, PO Box 150194, Addis Ababa, Ethiopia.

Denmark, OZ. Hello Guys, I (OZ6OM) will be QRV in the Nordic Activity Contest Thursday evening (May 13 th.) between 17 and 21 UT.
I intend to be QRV from JO55EJ at an alternate QTH running 100 w. into a 5 or 6 element Yagi.
In any case I intend to keep activity round 50.173 MHz (SSB/CW) and 50.230 MHz / 50.236 (JT6m).
I´m open for skeds at CW/SSB the first 2 hours, and JT6m the last 2 hours. I can be reached at email oz6om(at) uksmg.net prior to the contest and SMS +45 2066 7388 during the contest.
(One of the reasons I´m operating this way is, my attempt at setting up reasonable antennas at my QTH due to neighbor complaints have so far ended in a law suit)
Hope to see You down the log ... vy 73 de Matt OZ6OM - 13 May 2010

Scotland, GM. GS3PYE/p qrv from IO66NT during may 1st until 14th may 2010 We will be active on 6m (100w & 6ele YU7EF) and 4m (150w & 7ele YU7EF) with X-band for those who can not yet TX on 4m. We probably won't activate 2m MS or SSB much as last year it was very poor with limited QSOs but we do plan setup a reasonable satellite station with 2m (16ele) and 70cm (30ele) Hygain OSCAR antennas with 100w on 2m and 75w on 70cm. We may also bring a 23cm antenna but will probably leave the [heavy] 500w 2m amp at home as there will be little call for it, sorry. We will also run 2 HF voice and 1 HF data station throughout the 2 weeks.

Nicaragua, YN. Eric, K9GY, will once again be active as YN2GY from Octavio's, YN2N, QTH in Grenada, during the 2010 CQ WPX CW Contest (May 29-30th) as a Single-Op/All-Band/Low-Power entry. He will be there between May 27-31st. Outside of the contest, look for CW activity on 30/17/12 meters. Also look for him on 6 meters. QSL via LoTW or to his home callsign, direct or by the bureau.

Sardinia, IS0. Members of the F6KOP Team will be active as IS0R from Isola Rossa, Sardinia (Loc. JN41KA), between May 7-15th. Activity will be on 160-6 meters, using 3 stations on HF and 1 station on 6 meters. They plan to use CW, SSB and RTTY. Each station will be a FT450 with an Acom 1010 using Micro Ham and PC. Antennas include 6m Yagi Beam, Spider Beam for 30-10m, 4 square for 40m, vertical for 80m (K9AY) and an Inverted L for 160m plus a beverage. Operators mentioned are: Team leader Thierry/F4TTR (SSB), Sebastien/F5UFX (SSB), John/F5VHQ (SSB), Sergio/IS0AWZ (SSB), Norbert/F6AXX (CW), Maurice/F5NQL (CW), Bruno/F5AGB (CW), Jean-Paul/F8BJI (Digi), Henri/F1HRE (Digi) and Frank/F4AJQ (Digi). QSL route TBA.

Contest, Open / WW.
What to do on a tuesday evening ?
- Well the 4th. Tuesday in the month brings You "The 50 MHz Open"
- This month thats Tuesday - the 25 th. 17 - 21 UT.
- You could help participants out with some QSO´s
- or participate Your self ...
You may find the rules for "The 50 MHz Open" here
and check out the standings here.
- so are You keen to give "The 50 MHz Open" a try ?
Hope to see You down the log - and Your log ...
Vy 73 de Bjørn/"Matt" OZ6OM 25 May 2010

Aaland Isl., OH0. From May 15th. till May 28th. a DXpedition to Aland Island OH0, Eckero Island will take place. QRV on all HF bands special on the WARC bands in CW, SSB and RTTY. We are running 3 or 4 stations. We will also be QRV on 6m EME (WSJT) from the locator JP90SF. Calls are OH0/PA2AM, OH0/PA0VHA, OH0/PA3ALK, OH0/PA3BAG, OH0/PA2VMA, OH0/PA2A, OH0/PB5A. QSL direct or via home calls. More info on website www.pi4cc.nl - hope to work you from OH0. Best 73 de Wim PA2AM.

U.S.A., K. Peanut Isl. & JFK's Bunker - W4K - Scheduled for May 29th and 30th, 2010, on John F Kennedy's birthday members of the Jupiter Tequesta Repeater Group (W4JUP) will be activating for the first time Peanut Island (WW Loc. EL96XS, Palm Beach County) JFK's old Cuban missile crisis bunker, Florida. They will use the special event callsign W4K for the full 2 days. QRV on HF, 50MHz and 2 meters, using SSB and CW. 6m frequency 50.210 MHz SSB/CW; 2m 144.210 MHz; 20m, 40m to be determined at start of event by the HF team CW ops on K3's). QSL via operators' instructions. Further information can be found at: jtrg.org/DXpedition.shtml (Andy N8OFS).

Willis Isl., VK9w. [Update]. Dave, VK9WBM has been on Willis Island for a while and is experiencing unexpected problems. "I am slowly getting on HF", he says, "but I am not there yet. I cannot erect a mast, the soil s coral rubble and sand and will not hold a guy peg. The soil is a bone dry insulator and I have been unable to get any viable earth. The ongwire has worked 2 stations and is to be removed and replaced with a balanced antenna. This will take a bit of work as I have no ATU except the Icom AH4, an unbalanced only auto ATU. On 6m I am unable to mount the beam anywhere useful. It can only point out to the ocean. I have built a 300ohm slim jim and worked about 40 stations, mainly VK2 but with some VK3, 4, 5 and one ZL2. Listen for me in the afternoons on 6m, between 0400z and 0900z. When he is "reliably on HF", he anticipates it "will be 40m and harmonics only"

Willis Isl., VK9w. David A. Burton, VK9WBM will be working at the weather station on Willis Island for the next six months. He plans to operate on the HF bands and 6 metres in his spare time. QSL via VK4DMC.

Mongolia, JT. UA9YAB, Alex, plans to arrive in Mongolia on May 25th and will be operating as JT9YAB from a car using simple antennas until June 2nd. While there he will also put an emphasis on 50 MHz. If all works out as planned he will be find a location for a second trip for the coming autumn for a focused 160 and 80 meter operation. QSL via UA9YAB direct or via LOTW. No bureau requests.

By EAMON SKELTON, EI9GQ

Surface mount devices and differential amplifiers

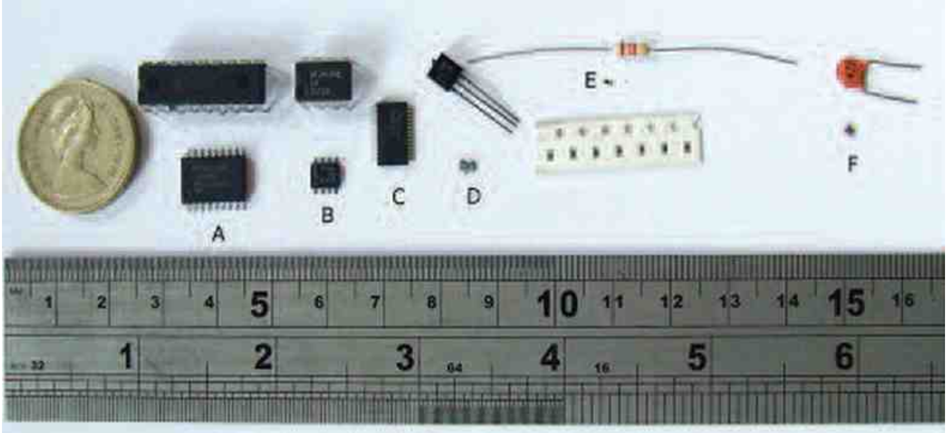


PHOTO 1: Traditional leaded components and their surface mount equivalents (see text).

IT'S NOT THAT NEW.
Surface mount technology, or SMT, is well established as the most common form of circuit construction in use today. Most commercial equipment makers have been using SM components for more than 20 years. For various reasons, many amateurs have been reluctant to use this method of construction. Ordinary through-hole components are still readily available and will probably remain so for many years. Many of us are well equipped for handling through-hole components and see little reason to change to the newer technology. However, SMT offers some advantages for the home constructor. SMT tends to have superior performance at VHF, UHF and microwave frequencies. Because of their small package size and lack of connecting leads, SM packages have lower stray inductance and capacitance than other package types. Some surface mount components are just as easy to use as their through-hole equivalents. SM chip capacitors and resistors are particularly easy to use. The smallest components are not so easy to work with, but larger devices like the 1206 series of chip capacitors and resistors are very easy to handle. These components are particularly well suited to Veroboard, deadbug, Manhattan and other styles of point-topoint wiring. SM components are usually cheaper than through-hole components. SM component kits are available at extremely
low cost. SM resistors typically cost a fraction of a penny each.

Any discussion about SMT should start with a few words about the terminology used. 'SMT' generally applies to the entire technology and not just individual components. SMD is a surface mount device like a resistor, transistor or IC. The term PTH (plated through hole) is often used to refer to conventional through-hole PCB construction that uses a drilled PCB and leaded components. This often leads to confusion because many single sided PCBs don't have plated-through holes. Most double sided and all multi-layer SMT PCBs do use plated through holes. To avoid confusion, I will use the term through-hole in place of PTH.

Photo 1 shows a selection of SM components and their through-hole equivalents. A is an 18 pin PIC microcontroller in a standard DIP package with the same device in a SOIC-W package below. B is an 8 pin op-amp in DIL and SOIC packages. C is a 28 pin AD9851 DDS in a SSOP (shrink small outline package). D is a TO92 transistor with a SM SOT23 transistor below. E is a standard 0.25W resistor with a tiny 0603 chip resistor below. F is a ceramic disc capacitor with an 0805 chip capacitor below. The SM components usually occupy a much smaller PCB area than throughhole components. The size, volume and weight reduction is even greater than the photograph would suggest because SM components also have a far lower profile than other component types.

Figure 1 shows the PCB footprint for a 28 pin DIP IC, a SOIC-Wide (small-outline integrated circuit, wide version), a standard SOIC package and finally the 28 pin SSOP package as used for the AD9851 DDS IC. The DIP package has 10 pins to the inch, a pin spacing of 2.54mm.

Standard SM packages like the SOIC have a pin spacing of exactly half this value. Smaller SM packages have 40 (TSSOP) or even 50 pins to the inch! As a gentle introduction to SMT construction techniques, we will build a couple of simple circuits using SM components. The first project, a 6-pole SSB crystal ladder filter, uses only passive SM components on a simple single sided PCB layout. I used 9.216MHz crystals in a low profile HC49/SMT package. This was as near as I could get to the popular IF of 9.0MHz using low cost off-the-shelf crystals. (9.216MHz is a standard baud rate generator clock frequency). The filter was designed using the methods described in Homebrew for March and April 2006.

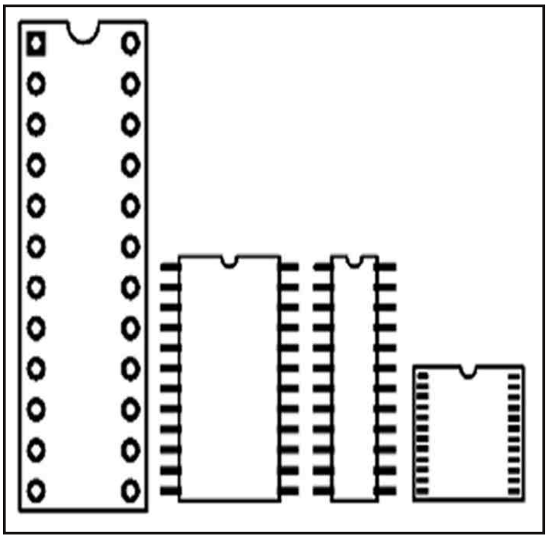


FIGURE 1: PCB footprints for 28 pin ICs (L-R) DIP, SOIC-Wide, standard SOIC and SSOP

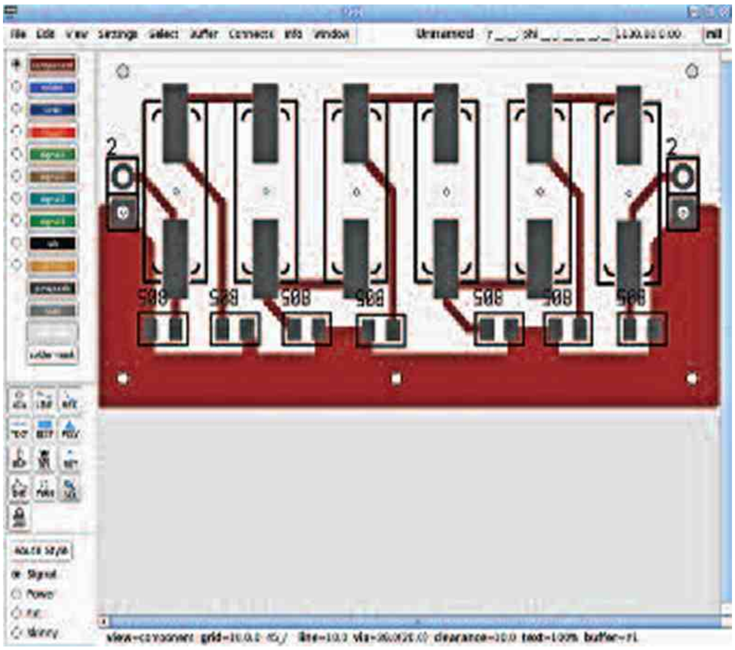


FIGURE 2: Typical PCB CAD software, in this instance 'pcb' running under Linux

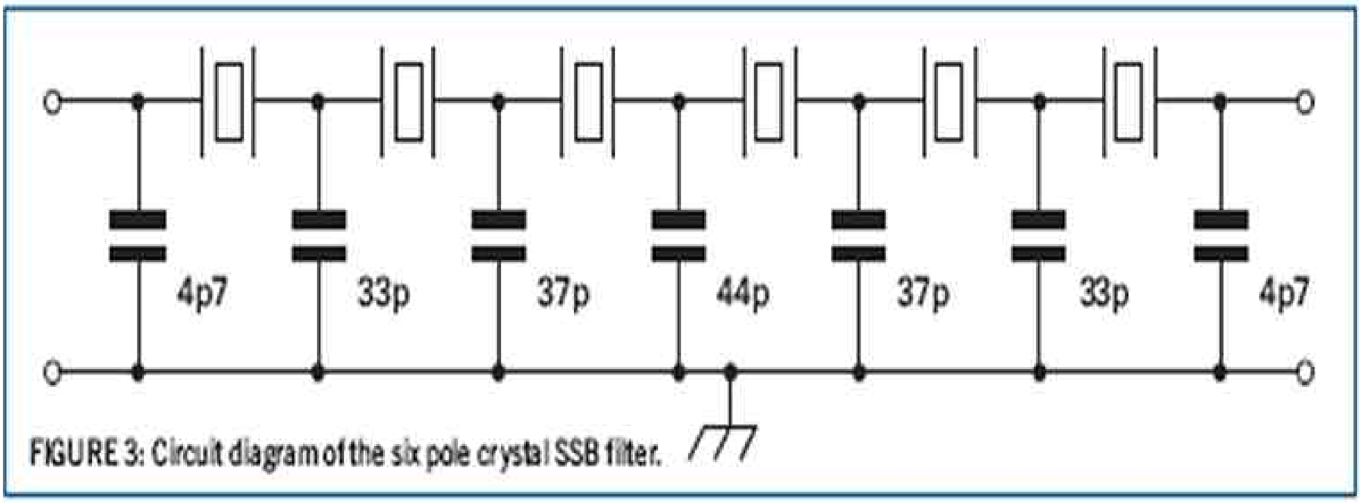
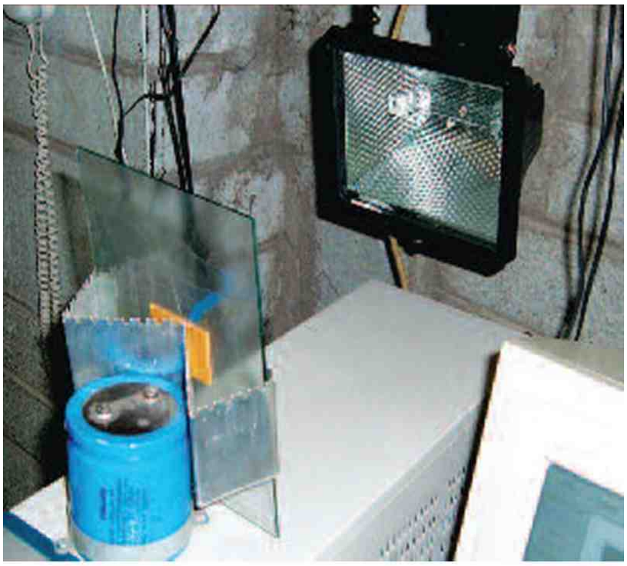


FIGURE 3: Circuit diagram of the six pole crystal SSB filter.

I used a spreadsheet [1] to simplify the design process. Joachim Köppen, F/DF3GJ, has written a handy Javascript calculator [2] based on the same formulae. As this is not a PCB making or filter design tutorial, I won't go into much detail about how the filter was designed or how the PCBs were made. If you want more information then you could do worse than refer to the most recent edition of the Radio Communication Handbook.

PCB LAYOUT DESIGN AND ARTWORK

It is just about possible to draw very simple PCB layouts for some of the larger SM components by hand, but a computer and PCB CAD software is really the only practical way of creating PCB layouts for SM ICs and smaller components. Suitable software is available at little or no cost. Beware of some of the 'free' PCB CAD software that is available on the internet. The price might seem attractive, but some of these software tools are only capable of producing layouts in a proprietary file format instead of industry-standard formats. This effectively means that you have to pay the software provider to make the PCB for you. I use 'pcb' running on a Linux PC. This is a good combination for the homebrewer: home-made CAD software and home-made operating system. You can use a home-made PC too if you like. The freeware version of Eagle CAD [3] is a good alternative. Eagle CAD is available for Windows, Mac and Linux. PCB layouts for SM components are created in much the same way as layouts for through-hole components. SM components are usually much smaller and track widths are narrower. Due to the small pin spacing of SM ICs, PCB tracks are not usually run between IC pins as is common practice with DIP. It would be difficult to do this with SOIC packages and impossible with SSOP and smaller packages. This limits the designers' options for designing complicated layouts on single-sided boards. It is possible to run a single track between the pads of some SM resistor packages. It is quite common to see zero ohm resistors where two copper tracks cross on SMT PCBs. This is less unsightly than wire links on through-hole PCBs. As the copper tracks are on the same side of the board as the components, there is no need to 'mentally reverse' the IC pins when looking at the track side of the board.Most commercially made SMT boards are double sided or multi layer. Double sided is not too difficult for the home constructor, but multi layer with plated-through holes would be a major challenge.



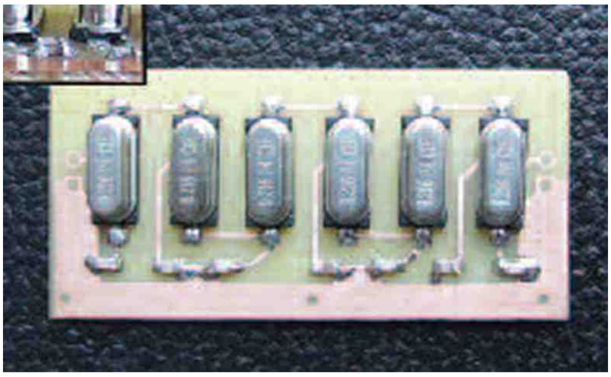


PHOTO 3: The completed SMT filter

PHOTO 2: My not-so-high-tech PCB exposure system

Figure 2 shows a screen capture of the PCB CAD software. Apart from the two pin connectors for input/output connections, the only components used are the six SM crystals and seven 0805 chip capacitors. PCB track widths are usually measured in mils (1 mil = 0.001 inch, or 0.0254mm). The 'pcb' software has three default track widths: Signal = 10 mils, Power = 25 mils and Fat = 40 mils. I used the Signal track width option, but since this is not a particularly small or cramped layout, I manually increased the track width by one step to 15 mils. There isn't much to be said about the layout. I left a lot of copper at the bottom edge, which makes an effective ground connection for the I/O terminals and the shunt coupling capacitors between each crystal resonator. If an even smaller circuit was required, it would be possible to bunch he crystals closer together and trim off the unused top edge of the board.

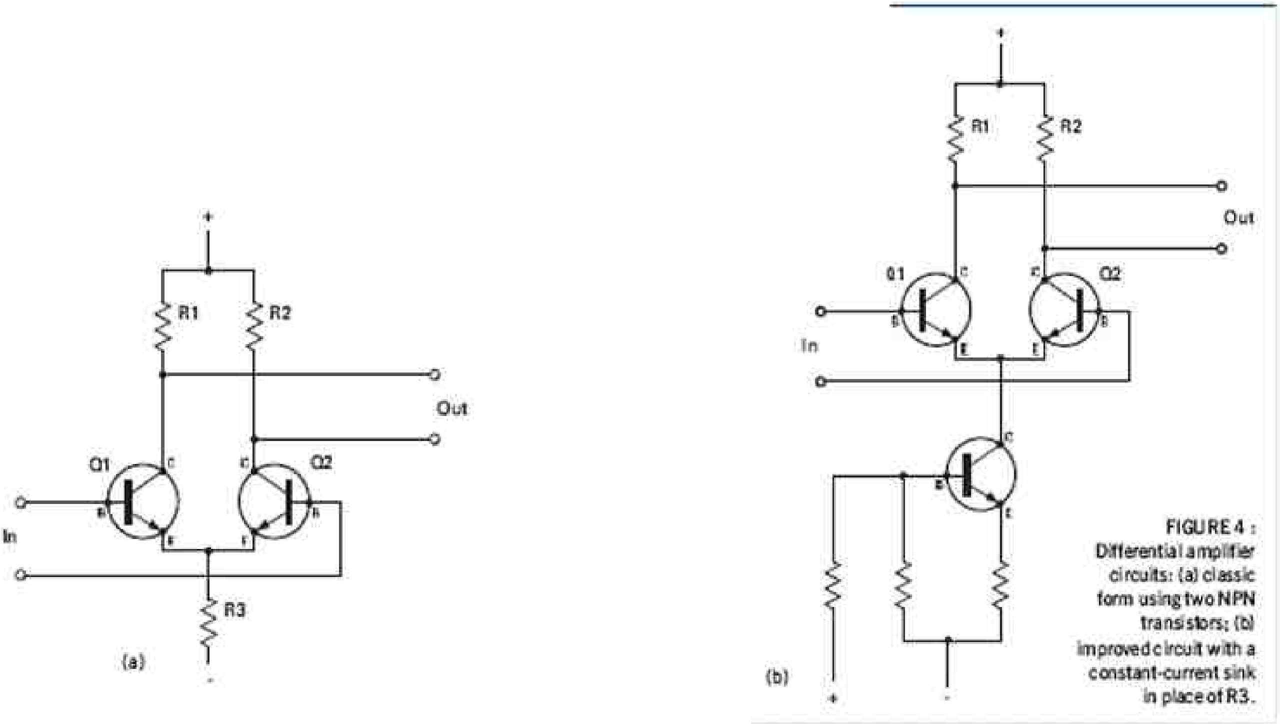


FIGURE 4 : Differential amplifier circuits: (a) classic form using two NPN transistors; (b) improved circuit with a constant-current sink in place of R3.

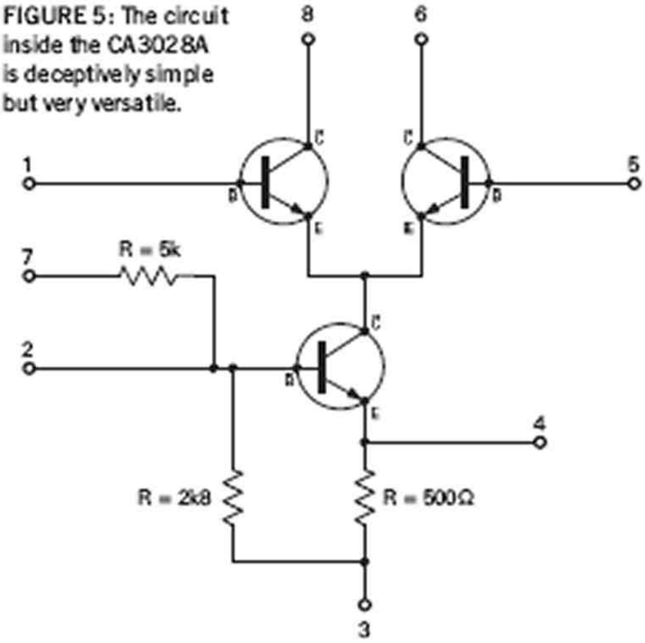


FIGURE 5: The circuit inside the CA3028A is deceptively simple but very versatile.

The filter schematic is shown in Figure 3.

Once the layout was finished, it was printed onto a sheet of Staedtler overhead projection film using an ordinary laser printer. This was used as a positive artwork for the UV exposure process. I used a 500W halogen lamp as the UV source and a small picture frame to keep the PCB and film in contact – see Photo 2. The PCB is standard single sided, pre-coated photosensitive PCB laminate (Maplin JP56 or similar). After the board was exposed to the UV source for 10 minutes, it was removed from the frame and developed in sodium metasilicate photoresist developer (a weak solution of sodium hydroxide also works). Finally, the board was etched in a ferric chloride bath.

After rinsing, the remaining photoresist was cleaned off with some fine steel wool. Please be careful if you make your own PCBs as some of the chemicals mentioned here are toxic, caustic or at least cause nasty stains – read the materials safety data sheets from the chemical suppliers before use.

Soldering the crystals to the PCB is a very easy job. The SM crystal PCB pads are quite large. I used a pointed soldering iron tip for soldering the 0805 chip capacitors. These are not the smallest type of SM capacitor, but they are small enough that a good illuminated magnifier will make the soldering job a lot easier. As the capacitors are small and very light, they tend to stick to the tip of iron and lift away from the PCB when you extract the iron from the solder joint. Commercial PCB makers usually glue the components to the PCB so that they remain in place during soldering. One of the recommended ways of preventing this problem is to use a wooden toothpick to hold the SM component steady while you are soldering it in place. This is easy to do if you are one of the lucky few who has three hands. You will need one hand to hold the toothpick, another hand to hold the cored solder and the third hand to hold the soldering iron. I have found that the best approach is to tin just one of the component pads on the PCB very lightly and then tack one component terminal to this pad using a tiny blob of solder on the tip of the iron.

I have found that the best approach is to tin just one of the component pads on the PCB very lightly and then tack one component terminal to this pad using a tiny blob of solder on the tip of the iron. This won't make a satisfactory solder joint, but it will be good enough to hold the component in place while you solder the other lead(s). The first pad is easily re-soldered once the other pad(s) are done. This method is not recommended for commercial PCBs where there is a requirement for good quality control.

The very hard ceramic materials in chip capacitors and resistors can crack because one side of the device is soldered firmly in place and remains relatively cool while the opposite end is heated by the soldering iron. However, this method is perfectly adequate for home made PCBs. I have had very few failures using this technique over a period of many years.

Photo 3 shows the finished SSB filter. One advantage of SM chip components that is rarely exploited on commercial PCBs is the way that they are easily stacked one above the other to make a parallel connection. As 37pF is not a standard value, I used 22pF and 15pF in parallel – see the inlay at the top left of the photo. The standard textbook advice for soldering chip components is to use just enough solder to make a small, slightly concave 'fillet' of solder between the PCB pad and the component terminals. As you can see in the photo, I usually end up using far too much solder.

DIFFERENTIAL AMPLIFIERS.

One of the most useful and widely used circuits in the history of electronics is the differential amplifier. Figure 4a shows the classic form of differential amplifier based on a pair of identical NPN transistors. This circuit is often referred to as a 'long tailed pair'. This example has a pair of differential inputs and a pair of differential outputs. The circuit is extremely flexible in that it can be used as a singleended input by simply using one input and grounding the other. If a single-ended output is required, you can just use just one of the outputs and ignore the other. The operation of the circuit is quite easy to understand. A signal applied to either of the two inputs will produce an amplified signal at both outputs. If we consider the case of a rising signal applied to the base of Q1 only, an inverted and amplified version of this signal will appear at the collector of Q1. This is the standard behaviour for a common-emitter transistor amplifier. A non-inverted output will appear at the emitter of Q1. This is the standard behaviour for a common-collector amplifier (also known as an emitter follower). The output at the emitter of Q1 is directly coupled to the emitter of Q2, which acts as a common-base amplifier. As the commonbase is a non-inverting type of amplifier, the output at the collector of Q2 is 180° out of phase with the output of Q1. This circuit is known as a differential amplifier because the magnitude of the output depends on the magnitude of the difference between the two inputs and not on the absolute level of the input signals. If a signal is applied equally to both inputs, a perfect differential amplifier will produce no change at the output. As one transistor is an inverting amplifier and the other is a non-inverting amplifier, the equal currents of opposite polarity will develop equal voltages of opposite polarity across the identical pair of collector load resistors R1 and R2.

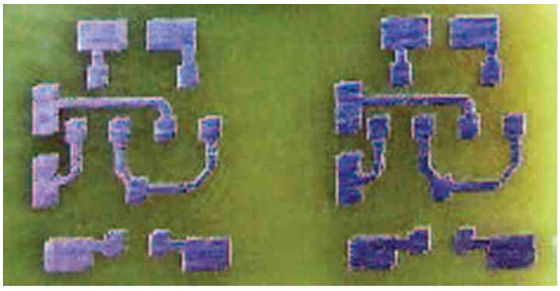


PHOTO 4: Making many boards at once on the same panel means they can be handled more easily

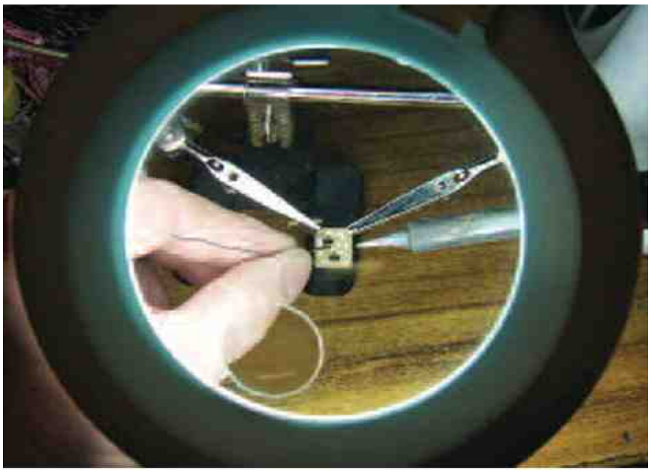
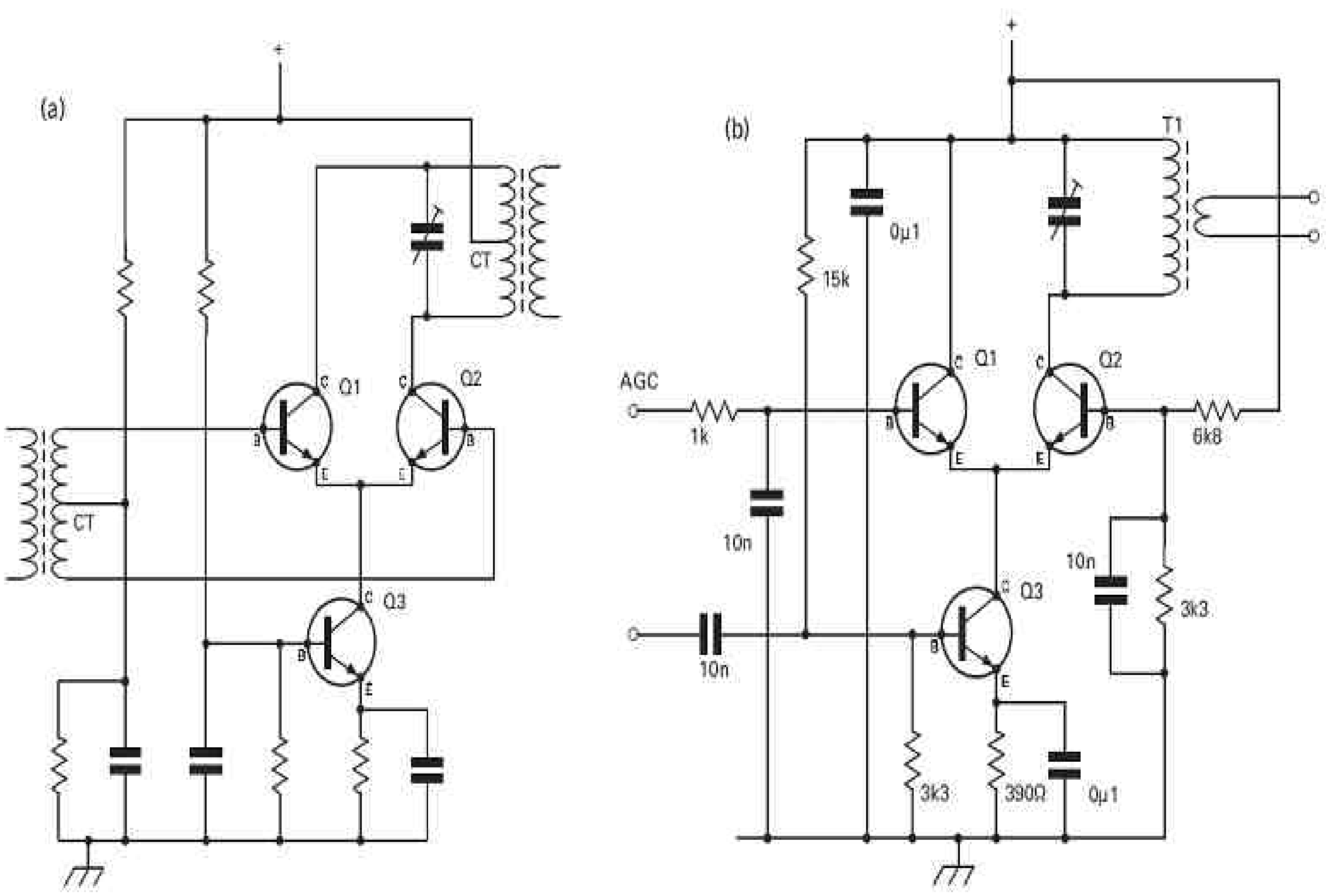


PHOTO 5: Soldering surface mount devices is often more easily accomplished with the aid of a strong magnifying glass

This ability to reject common-mode inputs makes the differential amplifier ideally suited to amplifying weak signals in a noisy environment. If the input is driven from a balanced circuit, for instance a twisted pair of wires with a microphone at the other end, any electrical noise picked up along the cable run will be of equal amplitude and phase on both wires of the twisted pair. This common-mode signal will not be amplified by the differential amplifier, which will only respond to the differential voltages from the balanced microphone.

FIGURE 6: Two applications for the differential amplifier board that will be discussed in a future edition. (a) IF amplifier, (b) Cascode amplifier.



The extent to which the amplifier can discriminate between common-mode and 'normal-mode' balanced signals is defined by its common-mode rejection ratio, or CMRR. In order to achieve a high CMRR, there should be good current balance between the two transistors. The best balance is achieved when the value of R3 is high relative to the value of R1/R2. This usually means that R3 will be several thousand ohms. This is not an ideal situation, especially at relatively low supply voltages. Current in Q1/Q2 would be very low and dynamic range would be limited. The performance of the circuit can be greatly improved by replacing R3 with a constant-current source (or sink, for the pedantic). A high gain transistor with a fixed voltage on the base and a resistor in the emitter circuit makes a good constant-current source.

The current through this transistor is largely determined by the base voltage and the voltage drop across the emitter resistor. This current will tend to remain constant regardless of the collector voltage. Figure 4b shows the improved circuit.

This is the standard differential amplifier circuit which isso widely used in just about every op-amp IC.

Transistors, JFETs, MOSFETs and valves have all been used in this configuration. One of the all-time favourite devices of the radio constructor was the RCA CA3028A differential amplifier IC. This simple IC consists of just three transistors and a few resistors in an 8 pin package. Figure 5 shows the internal configuration of the CA3028A.

It can be used as a differential amplifier at frequencies from DC to VHF. It can also be used in 'cascode' configuration where the lower transistor is configured as a commonemitter amplifier and one of the differential pair is used as a second stage in the common-base mode. The remaining transistor can be left unused or it may be used for gain control of the amplifier. This circuit can be used in many different configurations as an RF amplifier, mixer, IF amplifier with AGC, balanced-modulator, product detector, audio amplifier, limiter…in short, just about every stage of a radio receiver or transmitter!

The bad news is that the CA3028A is no longer in production and has recently become very expensive – typically over £10 each.

MINIATURE DIFFERENTIAL AMPLIFIER.

Our second project this month is a miniature differential amplifier consisting of three surface mount MMBT3904 NPN transistors on a small PCB. To save on consumables, and to avoid having to make very tiny PCBs, my artwork has 28 identical copies of the PCB layout. This means I can make 28 boards at the same time, then cut them up as required.

Photo 4 shows a section of the 28 board panel. The MMBT3904 is the surface mount version of the popular 2N3904. Given the very small dimensions of the board and, particularly, the components, I use whatever aids I can to assist in assembly.

Photo 5 shows how I assembled the prototypes using a bench magnifier: if you look closely you'll see that the PCB is held by a pair of croc clips attached to a 'helping hands' mount.

Photo 6 shows the finished amplifier module, which is about the same size as the IC it replaces. It's sometimes useful to make more than one differential amplifier at the same time and to keep them attached. I have made a few pairs, which will be used as a two stage IF amplifier in a future project.

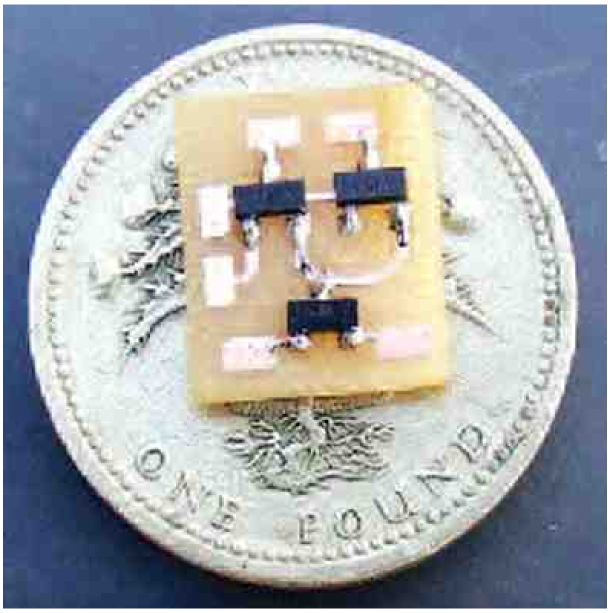


PHOTO 6: The finished differential amplifier module is quite tiny

Best 73 ! EI9GQ

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[1] http://tinyurl.com/nvkymw
[2] http://tinyurl.com/lme7bm
[3] www.cadsoft.de/

PART 3

Some years later, and up to 90's many other magazines published the story like the italian newspaper "Il Giornale". This article was reprinted in other newspapers like the one displayed at right that describes in its column "Chi è l'esperto, He is the expert", the Judica-Cordiglia brothers adventure, entitled their article "The man that I investigated on the Shroud and the space disasters", mixing the Shroud of Turin affair with Torre Bert. In quest of a scoop, paparazzi are always at first place !

In all cases, on April 7, 1965, irritated, at the request of the russian general Kamarin, Radio Moscow did a comment about these allegedly distress messages received by Torre Bert : "*The article is based upon statements made by the Judica-Judica-Cordiglia brothers, who allegedly received signals and recorded conversations in space by a number of soviet cosmonauts who did not return from their flights... two years ago the same nonsense could be found in the pages of the "Washington Post"...a few organs of the burgeois press, in an attempt to give their cosmic lies an appearance of truthfulness, mention data provided by the american information services. These services would have provided in confidence to the journalists information about these dead cosmonauts. However, such data do not reflect the truth. And with this statement we could close the whole matter*".

Among all data gathered by the two brothers, that they are partly false or not, there is a fact that using amateur equipments, Judica-Cordiglia brothers were able to capture space communications, deduce the launch of new missions, and to shake the russian empire. Thanks to their work, NASA was also aware to the fact that smart people can easily identify space frequencies, even if they are under embargo.

For an obscure reason always not explained, Torre Bert and Zeus network were dismantled around 1966. Several reasons can be advanced. First, the recent new family life of their main investigors has probably heavily contributed to this abandon; then the bad publicity made around their claims, and the flop of the Zeus network added probably other harassments to their frustration. In all cases the two brothers began their professional life around that time too what could explain this final withdrawal.

New developments

Whatever the explanations, as we will explain in another article dedicated to the history of amateur radio, slowly amateurs were preparing their entry in the world of space communication. Radio amateurs launched their first ham satellite in 1961 with OSCAR 1, and in 1969 they set up the Radio Amateur Satellite Corporation, AMSAT. The Judica-Cordiglia brothers didn't never belong to this famous organization.

Today Achille is a cardiologist and a past president of the Lyons' Club Italy while Gian Battista is a forensic scientist who took the first color picture of the Shroud of Turin in 1969. Recently he was also involved in the successful "scientific" defense of Mr Berlusconi's former Defense Minister, although I am not sure that this second argument is relevant knowing the character. Anyway, the two brothers are today highly respected and successful persons.

Their last book : disappointed

In 2004, I was informed by Giovanni Abrate from "Lost Cosmonauts", that the Judica-Cordiglia brothers finished writing a book with an accurate chronicle of their activities. The book was submitted to various prospective publishers. We were all impatiently waiting for what new facts and evidences this book could learn us about their activities and alleged claims.

The book would describe in detail the techniques used by the Judica-Cordiglia brothers, the frequencies, the Zeus network, the leads provided by US Intelligence and many other facts, including the statements by many personalities of science, technology and the press, who were present at the time of the intercepts and who have stated their support for the Judica-Cordiglia brothers. Wait and see...

In 2007, James Oberg read this article that he qualified of "excellent technical analysis", as well as the last book written by the Judica-Cordiglia brothers. Unfortunately their book is far to confirm their allegations. Here are the comments that Jim accepted to share with us about this so-long-awaited book : "I read [Cordiglia brothers] new book. It is an immense disappointment [...] There is no credible evidence to believe any of their claims--

not about 'missing cosmonauts' (we knew this thirty years ago)
not about receiving a photo of the Moon from the Luna-4 probe
not about receiving voice signals from Vostok-1
not about receiving telemetry and voice from MA-7 (Glenn)
not even about meeting top NASA officials (the only photograph in the book shows them standing on the street in front of the NASA headquarters and its sign). [...]

I gave them credit for inspiring other people to attempt amateur radio listening of space events (exactly as you wrote in your own article), but I insisted that nothing that they claimed to discover has ever been verified by any other radio amateur or by the massive disclosures of 'glasnost' and post-Soviet revelations. Rien." Jim.
Unfortunately Jim's conclusions confirm what we expected : all Cordiglia's claims are based on very few real facts. Their story looks to a huge hoax or almost. Don't waste your time in reading their book, you will lost your money for nothing.

About the Torre Bert affair

The information published on Giovanni and Mario Abrate's Lost Cosmonauts website is protected by copyright that will be probably enforced after the publication of the Judica-Cordiglia brothers' book. It was impossible for me, like for anyone else, to reproduce their document, even for educational purposes or for a non-profit amateur website. Therefore I decided to redrawn myself the original pictures and to display these sketches in this article. These sketched are not copyrighted.

On March 3, 2004, I contacted Giovanni Abrate to get some additional information. I thank him for his courtesy in reading this review that not necessary converges to his opinion and the talks that he holds on his website. As expected, by return of mail he corrected in fact all of my arguments going against his claims.
With sympathy he probably accepted the deal as a good critical is better than rumor but he didn't answer to all my questions. He stond on his positions and didn't accept any of my arguments, like he refused the ones of the other inquirers, considering all them, including those linked below, as "anti-Cordiglia brothers". He accepted however to discuss.

In 2003 and 2004, I contacted my friend Valentin Strashinski, from TsNIIMash and leader of ISS project ET Shadow to ask him to confirm with Sergey Samburov from the Rocket Space Corporation “Energia” (RSCE), the history of Vostok/Voskod and alleged "black programs".
None of them confirmed me the existence of these black programs.

None of them confirmed me the existence of these black programs. According to RSCE archive (public) here are the sole cosmonauts who died since the beginning of the Soviet space program. This information is well-known :
- 1961, Valentin Bondarenko burned in a pressurized chamber during a pre-flight training
- August 5, 1966 accident of Soyuz-1. Death of Vladimir Komarov
- June 30, 1971, accident Georgy Dobrovolsky, Vladislav Volkov and Victor Patsaev

On April 25, 2004 I contacted again Giovanni Abrate so that he sends me some documents about these first soviet accidents. Here is an extract of his answer :

"Hi Tierry! Thanks for your kind message. The events that you mentioned are now well known, including the terrible fire that killed young trainee Bondarenko.

I know and respect the Judica Cordiglia brothers and I know, at least by reputation, many of the journalists and scientists who were present at the time of the intercepts.

I have had unofficial confirmation of the veracity of these facts from two different and independent former members of the U.S. Government who were in a position of knowledge.

I should note that this does not apply to the alleged flight of Vladimir Ilyushin, as the Judica Cordiglia brothers never received any signals on the day of the purported flight.

I do believe, based also on the interviews held by a journalist from FOX television with prominent ex-cosmonauts, that the Soviet Union had TWO space programs: a public one, led by Korolev and a "black" one, where clearly more daring missions were attempted.

I hope, if that is the case, that one day we will know for sure.

Please note that the Chinese space agency made a statement recently mentioning dead soviet cosmonauts who perished "at the beginning" of the soviet space program. If you read the Ilyushin story, you can see that the Chinese would be in a very good position to know, since Ilyushin purportedly crash landed in China".

On another side I tried on several occasions since 1990 or so to enter in contact with the Cordiglia brother in Italy. Up to now this is the complete radio silent as if there was a blackout on all this story for an undisclosable or shameful reason.

By way of conclusion

Beside the alleged claims of cosmonauts in distress and the other recordings made by the Judica-Cordiglia brothers, we can conclude that the two brothers did track satellites; they were pioneers in their field like James Oberg was another one for the Russian Space Agency. Unfortunately the comparison stops here because the Judica-Cordiglia brothers are far to be so objective and straightforward than James Oberg.

Some radio amateurs and so-called specialists who investigated the Torre Bert affair were, prior to their investigations, anti-Judica-Cordiglia brothers simply because of their reputation. You will recognize with me that this is not either a very scientific attitude nor a positive way of analyzing their claims.

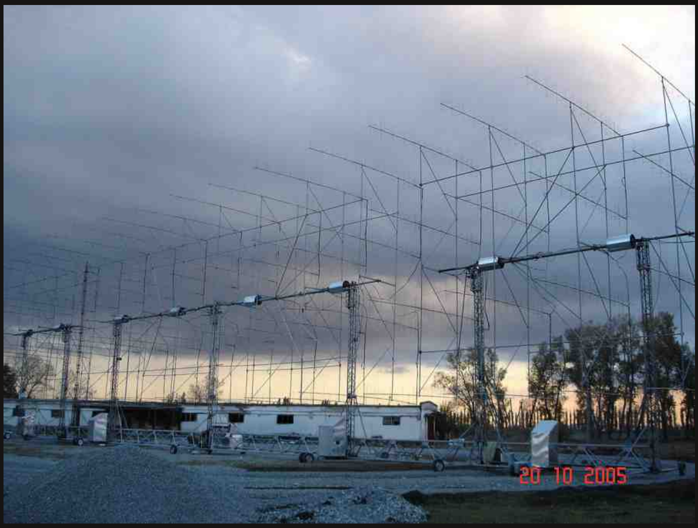
After investigation, I have demonstrated in this analysis that the Judica-Cordiglia claims are almost all false; they were never confirmed by the authors nor by any private investigator or institution. To my deepest disappointment, this story ends sadly; my dream of kid has been broken. But another dream is always alive : I won my amateur radio license !

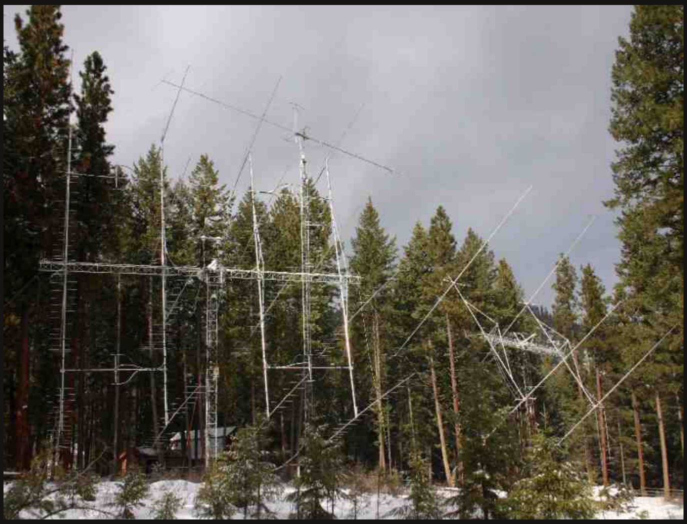
This file is closed.

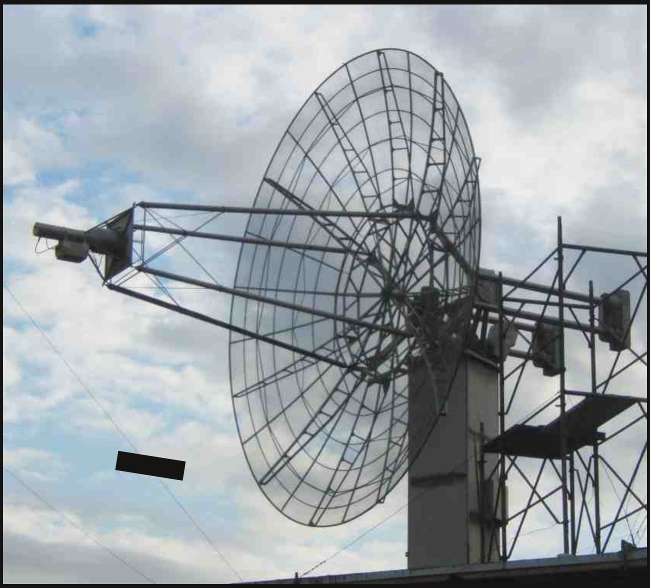
COMIC'S HAM

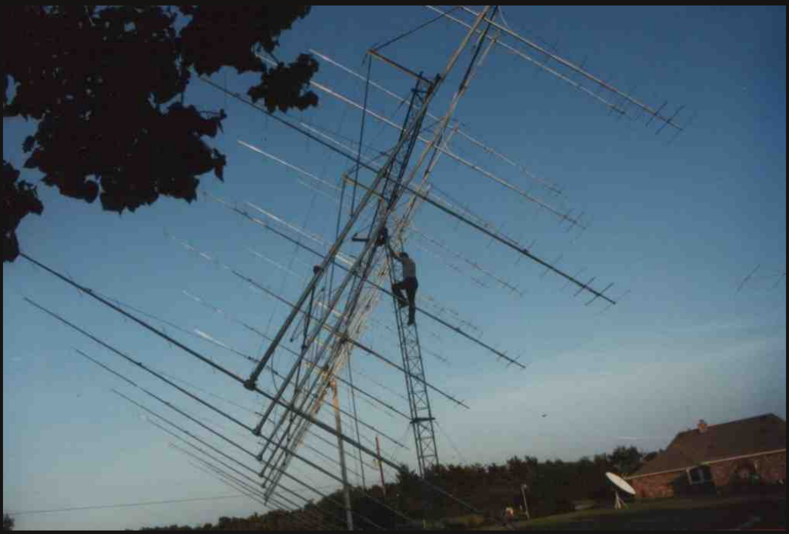
Have some fun...

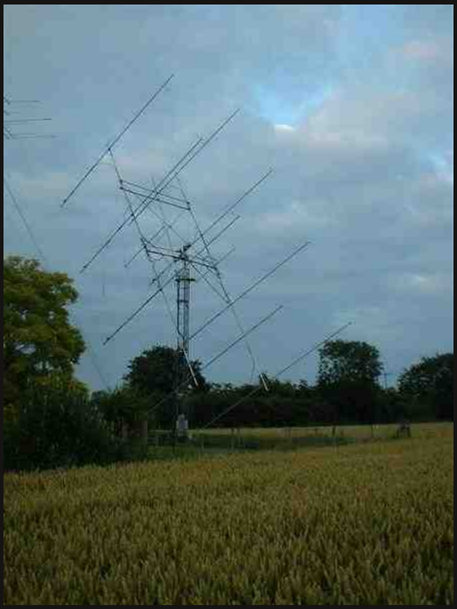
Signal to the Moon











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Radio operator in WW2
by Chuck Blaney

Making a 28MHz rubber duck for the FT817

A CW QRP Transceiver for 20 m band

NUMBER 6
FREE ISSUE

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JUNE 2009

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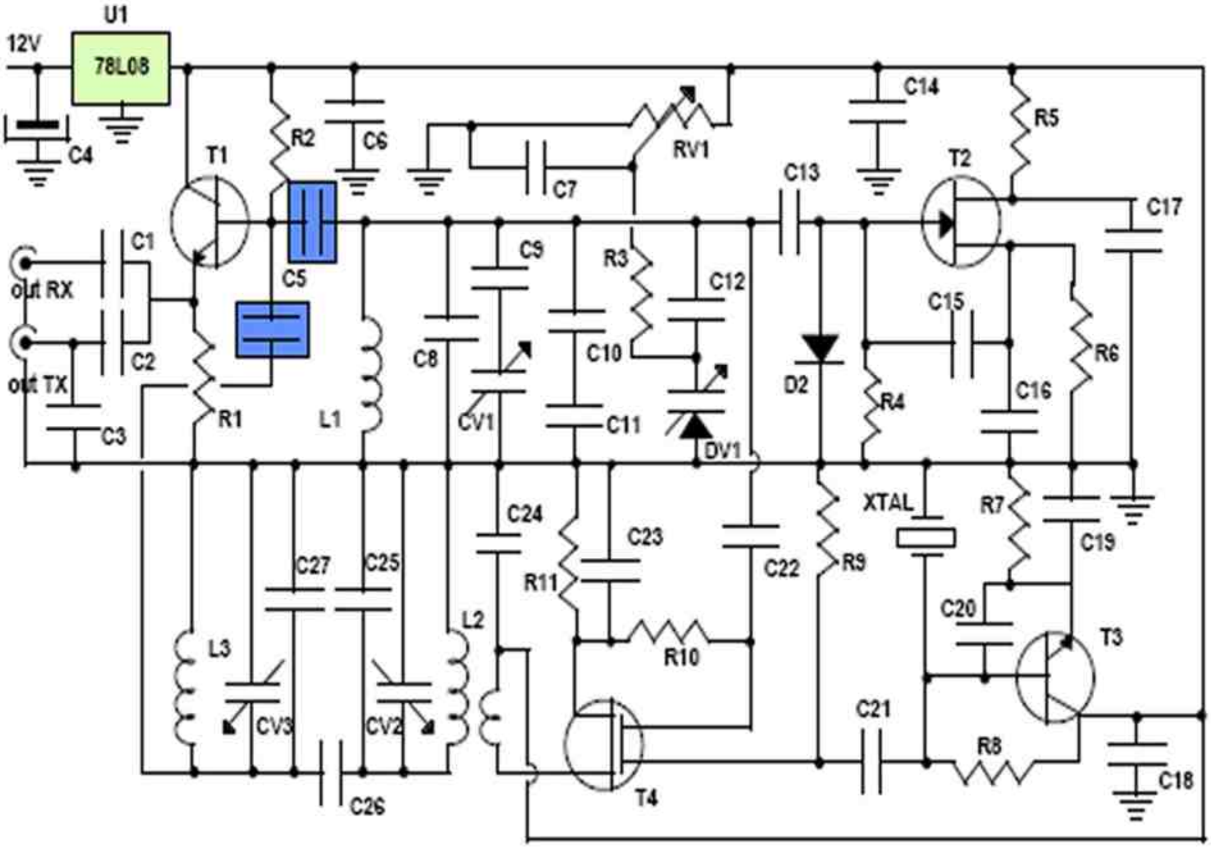
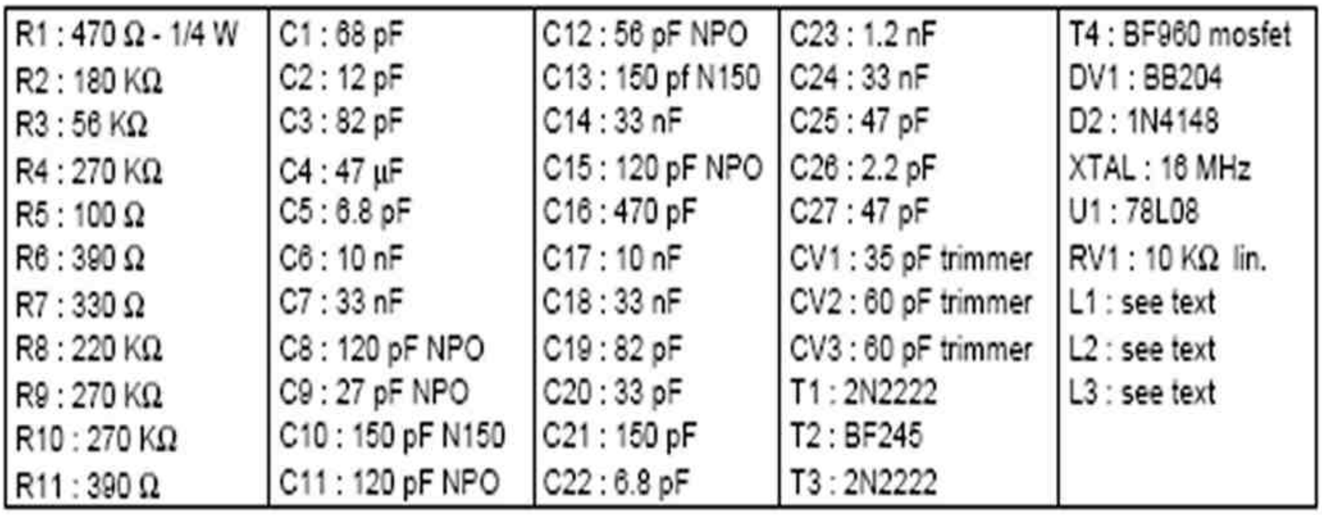
A CW QRP Transceiver for 20 m band
By IK3OIL

The little QRP presented in this article may be built in a gradual manner, in fact it is divided in two main modules (plus VFO), you may also complete only a single part (RX or TX module). Also the VFO module may be built with two complexity levels, as a conversion VFO or as a free oscillator, obtaining slightly different performances.
In other words the project looks completely modular, the tuning requires at least a frequency meter, a signal generator and an RF probe, if you have at your disposal an oscilloscope, this could make the job simpler.

How it is made
The transceiver is composed by three single sided printed boards 100x70 mm, theese may be stacked so as to reduce the overall size of the metal cabinet. I suggest to employ small size components (1/4 W resistors, 2,5 mm capacitors, …) wich should fit better on the PCB boards. On the front panel you may place the tuning pot with its reductor gear, the gain and volume controls, the Key and earphone jacks. The power and antenna connectors may be housed on the back panel.

How it works
I'll describe individually the three boards and the relative tuning devices.
a) The VFO circuit





R1 : 470 Ω - 1/4 W
R2 : 180 KΩ
R3 : 56 KΩ
R4 : 270 KΩ
R5 : 100 Ω
R6 : 390 Ω
R7 : 330 Ω
R8 : 220 KΩ
R9 : 270 KΩ
R10 : 270 KΩ
R11 : 390 Ω

C1 : 68 pF
C2 : 12 pF
C3 : 82 pF
C4 : 47 µF
C5 : 6.8 pF
C6 : 10 nF
C7 : 33 nF
C8 : 120 pF NPO
C9 : 27 pF NPO
C10 : 150 pF N150
C11 : 120 pF NPO

C12 : 56 pF NPO
C13 : 150 pf N150
C14 : 33 nF
C15 : 120 pF NPO
C16 : 470 pF
C17 : 10 nF
C18 : 33 nF
C19 : 82 pF
C20 : 33 pF
C21 : 150 pF
C22 : 6.8 pF

C23 : 1.2 nF
C24 : 33 nF
C25 : 47 pF
C26 : 2.2 pF
C27 : 47 pF
CV1 : 35 pF trimmer
CV2 : 60 pF trimmer
CV3 : 60 pF trimmer
T1 : 2N2222
T2 : BF245
T3 : 2N2222

T4 : BF960 mosfet
DV1 : BB204
D2 : 1N4148
XTAL : 16 MHz
U1 : 78L08
RV1 : 10 KΩ lin.
L1 : see text
L2 : see text
L3 : see text

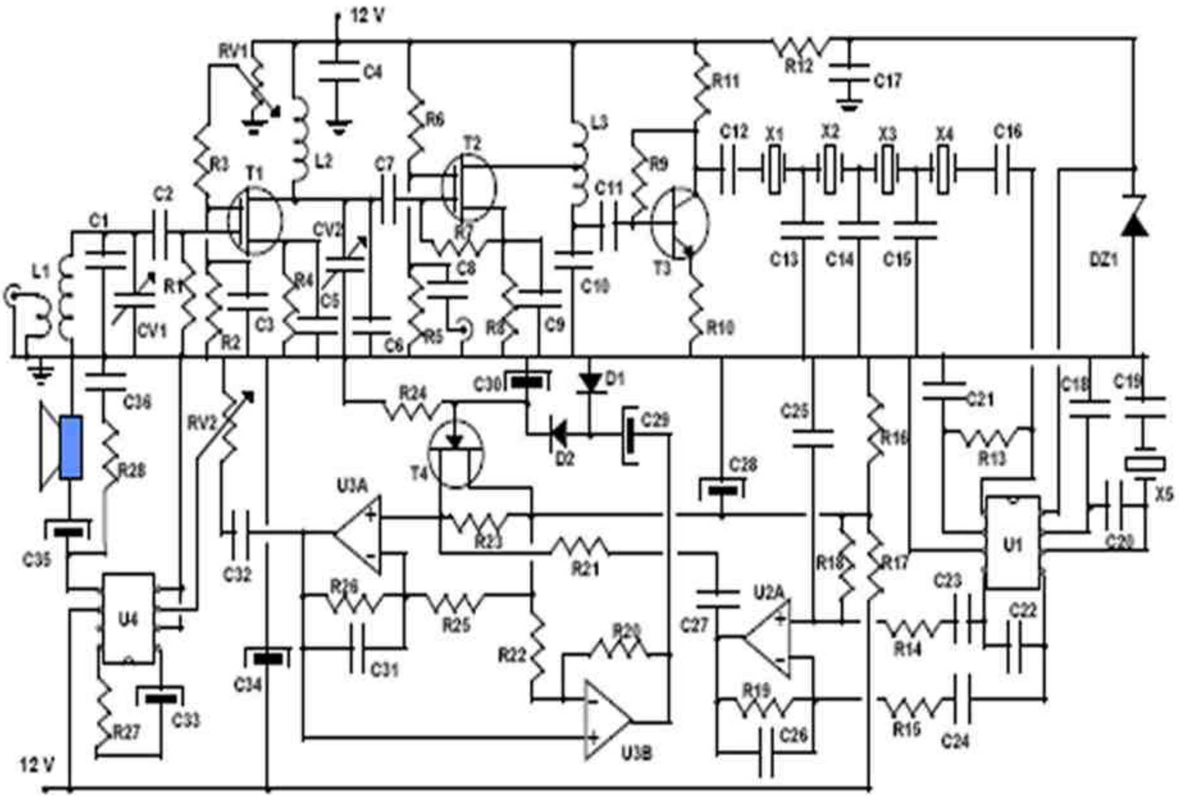
The basic version makes use of a Colpitts fet oscillator and a buffer (2N2222) driving the RX and TX circuits. It works very well up to 7 or 8 Mhz, above this limit the stability may be impaired, therefore if you want to adapt this transceiver for a high-bands use (this is the case of 14 MHz band), it will be better to choose the conversion VFO version, wich makes use of the whole PCB board. You may shift from a version to the other simply by changing the connection of the C5 capacitor. The basic circuit version doesn't use the conversion components (located in the lower part of the schematic)

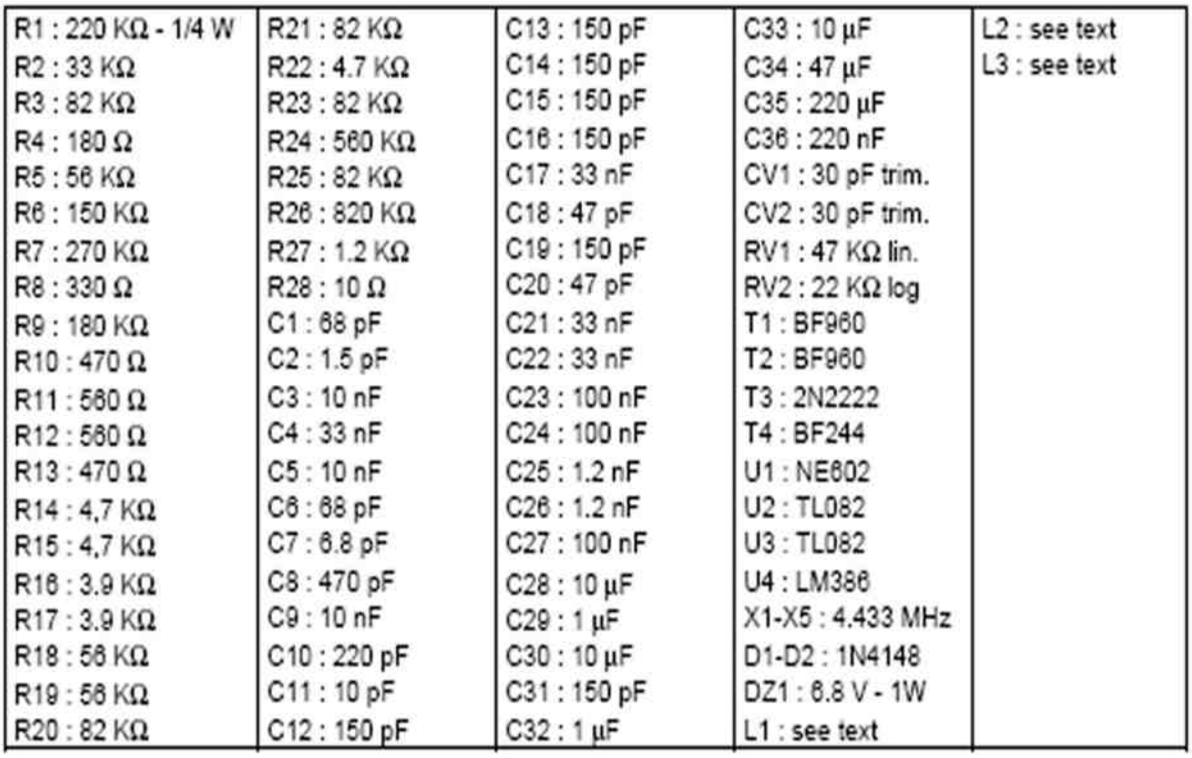
Where specified, the capacitors must be NPO type. The tuning coil must be wound very carefully.

A multi-turn pot may be employed for the tune control, but this will make the building of a frequency reading scale more difficult.
The L1 coil for the 14 Mhz band is made by 50 turns of enameled 0.40 mm wire wrapped on a 13mm plexiglass core. The specified component values allow a frequency span of about 70 KHz (from 2,433 to 2,510 Mhz) and the output level will be 4V pp. The two varactor diodes contained in the BB204 must be parallel connected.
The L2 and L3 coils for the 14 Mhz band are obtained wrapping 12 turns of 0.50 mm enameled wire on a toroidal core T44-2. The link on L2 is made by 3 turns of plastic insulated wire.

To tune this module you may follow these instructions :
- remove the 16 MHz crystal so as the oscillator goes off
- remove the connection between C21 and the gate 1 of the mosfet
- input a 18.4 Mhz signal to the gate 1 of the mosfet
- tune CV2 and CV3 capacitors for the maximum output at 18.4 MHz frequency, using an RF probe (or better an oscilloscope)
- insert the crystal and C21 capacitor
- turn RV1 at the minimum value and tune CV1 so as to obtain a 18,433 Mhz (14 + 4,433) frequency

b) The Receiver circuit





R1 : 220 KΩ - 1/4 W
R2 : 33 KΩ
R3 : 82 KΩ
R4 : 180 Ω
R5 : 56 KΩ
R6 : 150 KΩ
R7 : 270 KΩ
R8 : 330 Ω
R9 : 180 KΩ
R10 : 470 Ω
R11 : 560 Ω
R12 : 560 Ω
R13 : 470 Ω
R14 : 4,7 KΩ
R15 : 4,7 KΩ
R16 : 3.9 KΩ
R17 : 3.9 KΩ
R18 : 56 KΩ
R19 : 56 KΩ
R20 : 82 KΩ

R21 : 82 KΩ
R22 : 4.7 KΩ
R23 : 82 KΩ
R24 : 560 KΩ
R25 : 82 KΩ
R26 : 820 KΩ
R27 : 1.2 KΩ
R28 : 10 Ω
C1 : 68 pF
C2 : 1.5 pF
C3 : 10 nF
C4 : 33 nF
C5 : 10 nF
C6 : 68 pF
C7 : 6.8 pF
C8 : 470 pF
C9 : 10 nF
C10 : 220 pF
C11 : 10 pF
C12 : 150 pF

C13 : 150 pF
C14 : 150 pF
C15 : 150 pF
C16 : 150 pF
C17 : 33 nF
C18 : 47 pF
C19 : 150 pF
C20 : 47 pF
C21 : 33 nF
C22 : 33 nF
C23 : 100 nF
C24 : 100 nF
C25 : 1.2 nF
C26 : 1.2 nF
C27 : 100 nF
C28 : 10 µF
C29 : 1 µF
C30 : 10 µF
C31 : 150 pF
C32 : 1 µF

C33 : 10 µF
C34 : 47 µF
C35 : 220 µF
C36 : 220 nF
CV1 : 30 pF trim.
CV2 : 30 pF trim.
RV1 : 47 KΩ lin.
RV2 : 22 KΩ log
T1 : BF960
T2 : BF960
T3 : 2N2222
T4 : BF244
U1 : NE602
U2 : TL082
U3 : TL082
U4 : LM386
X1-X5 : 4.433 MHz
D1-D2 : 1N4148
DZ1 : 6.8 V - 1W
L1 : see text

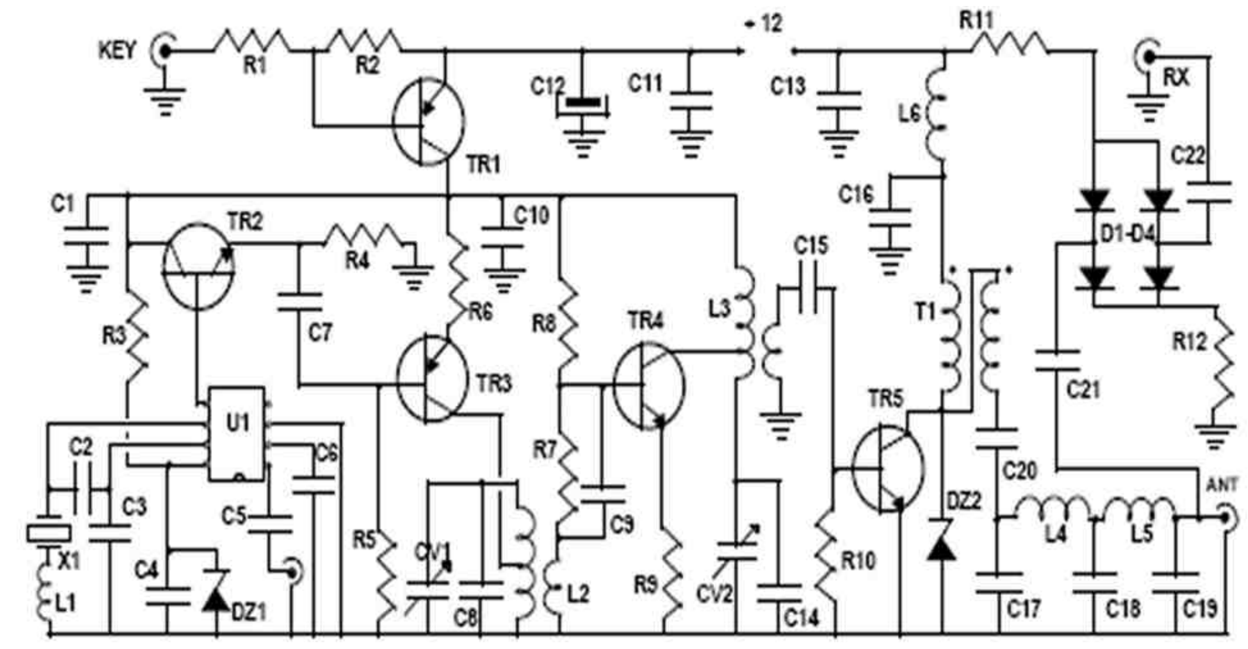
L2 : see text
L3 : see text

It uses a classic superetherodyne design, employing mosfets in the front end and in the mixer stage, so as to obtain a good immunity towards overloadig signals and a few dB of RF gain.
The XTAL ladder filter makes use of 4 crystals, it exhibits about 600 Hz of bandpass and a good out-of-band rejection. You may employ any set of crystals, provided that their frequency is near 4 MHz. An NE602 IC is used as a product detector, producing also the beat frequency by another (same frequency) crystal. A capacitor, series connected to the crystal, raises slightly the beat frequency, so producing the required shift to demodulate the CW.
The BF circuit makes use of a first pre-amplifier and filtering stage followed by an AGC circuit. This BF automatic gain control partially compensates for the lack of a true IF section and the relative RF derived AGC. Please notice that the RX circuitry is working also in TX mode, so the trasmitted CW, whose amplitude is reduced by the diodes bridge and the AGC control, can be heard from the loudspeaker while keying (full break-in and monitor functions).
An LM386 IC works as a power amplifier delivering about 1 W into an 8 loudspeaker. Be careful while connecting this IC on the PCB board, an effective ground bypass is needed for the Vcc supply line, I suggest to insert two 47 µF capacitors immediately near the IC pins (see C34 in the assembly schematic), also the connections to volume control must be shielded.
The L3 coil is made by 30 turns of enameled 0.30 mm wire wrapped on a 5 mm plastic support with ferrite core, the tap is obtained at the 6th wire from the Vcc (cold side).
The L1 and L2 coils, for the 14 Mhz band, are obtained wrapping 16 turns of enameled 0.40 mm wire on a T44-2 toroid. The link on L1 is made by 3 turns of plastic insulated wire.
To tune this module please follow these instructions :
- tune the mixer stage injecting a 4,433 Mhz signal into the VFO input and adjusting the L3 core so as to obtain the maximum output from the T3 collector
- connect the VFO and input a 14 Mhz singnal to the receiver, then alternate the tuning of CV1 and CV2 so as to obtain the maximum output from the XTAL filter
- connect the antenna and adjust slightly CV1 and CV2 so as to obtain the best reception of a week signal
- you may change the CAG decay time by modifying the R24 value (the higher the value, the longer the decay time)
If any instability is observed in the front-end stage, you may try to solve the drawback by parallel connecting a 470 to the RX input, and/or loading the L2 coil with a 15-22 K parallel connected resistor.

c) The Transmitter circuit

See on the next page...

Some QRP rigs...



R1 : 3.9 KΩ - 1/4 W
R2 : 33 KΩ
R3 : 1 KΩ
R4 : 1 KΩ
R5 : 47 KΩ
R6 : 47 Ω
R7 : 100 Ω
R8 : 1.2 KΩ
R9 : 5.6 Ω
R10 : 47 Ω
R11 : 1 KΩ

R12 : 1 KΩ
C1 : 47 nF
C2 : 47 pF
C3 : 150 pF
C4 : 10 nF
C5 : 470 pF
C6 : 10 nF
C7 : 1 nF
C8 : 82 pF
C9 : 390 pF
C10 : 47 nF

C11 : 47 nF
C12 : 47 µF
C13 : 47 nF
C14 : 68 pF
C15 : 47 nF
C16 : 47 nF
C17 : 150 pF
C18 : 330 pF
C19 : 150 pF
C20 : 47 nF
C21 : 10 nF

C22 : 10 nF
TR1 : 2N2907
TR2 : 2N2222
TR3 : BF324
TR4 : BFR36
TR5 : see text
X1 : 4.433 MHz
DZ1 : 6.8 V - 1W
DZ2 : 33 V - 1W
U1 : NE602
CV1 : 30 pF trim.

CV2 : 30 pF trim.
L1 : induct. 22 µH
L2 : see text
L3 : see text
L4 : see text
L5 : see text
L6 : VK200
T1 : see text
D1-D4 : 1N4148

It employs a frequency conversion design, so you can operate the TX and RX using a single VFO.

An NE602 mixer converts the VFO frequency up to the 14 MHz band using a crystal similar to those used in the RX, the little series connected inductance lowers the crystal oscillating frequency so as to produce the necessary shift. The power broadband stage is equipped with a transitor suited for the CB band (2SC2092, 2SC1969, MRF475, 2SC2166). The driver and final transistors must be adequately cooled. The T1 transformer has a 1:4 ratio and is made bifilar winding 6 paired turns of enameled 0.5 mm wire on a ferrite TV balun (12x12 mm). A double Pi filter cleans the signal before sending it to the antenna, while a diode bridge works as an electronic switch and implements the full break-in function. The power supply to the driver stages is inhibited while receiving, by means of TR1.

The 14 MHz coils must be made in the following manner :

L2 and L3 : 16 turns of enameled 0.40 mm wire on a T44-2 toroid, tap at the 5th wire, link made by 2 turns of plastic insulated wire

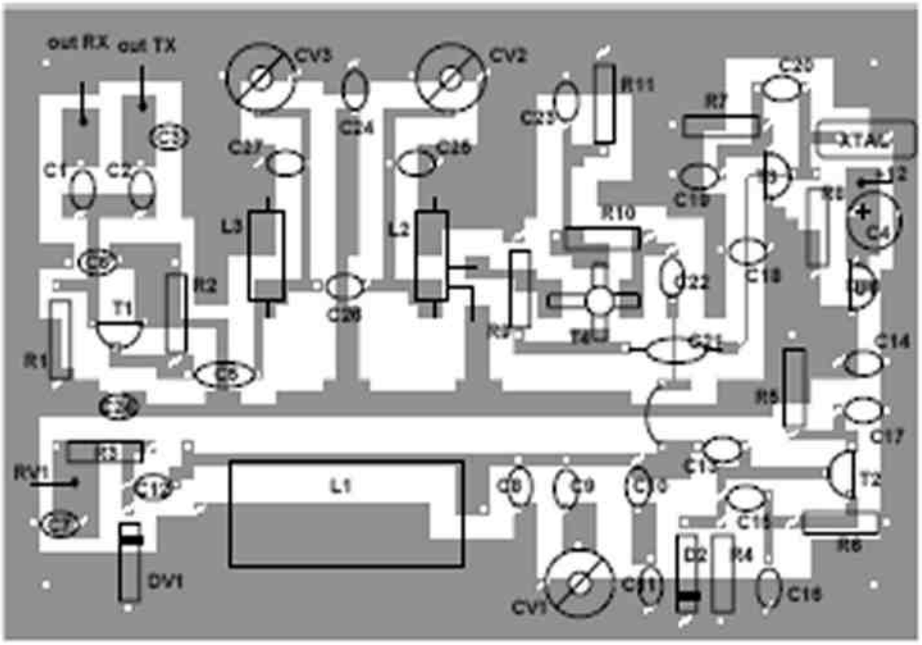
L4 and L5 : 12 turns of enameled 0.50 mm wire on a T50-6 toroid

To tune this module connect the VFO, then alternate the tuning of CV1 e CV2 so as to obtain the max imum output (4 - 5 W) on a dummy load (you may build it by parallel connecting 9 resistors 470 - 1W).

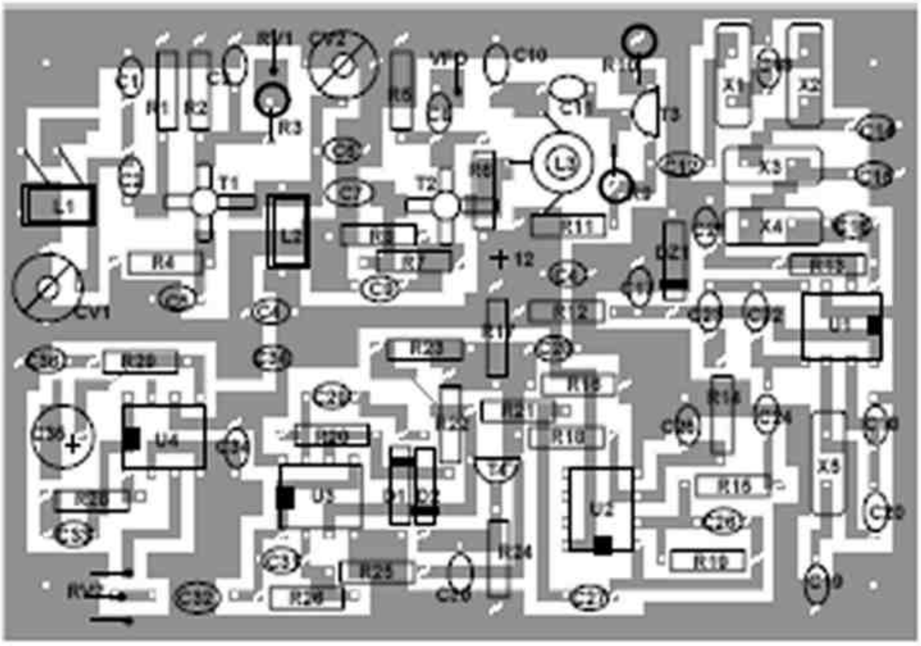
The full power current required will be about 1 A. If any instability is observed, you may try to solve the problem by inserting a low value (0.5) resistor series connected to the emitterof TR5, and/or by raising the R6 value to 100 or more.

d) The PCB boards

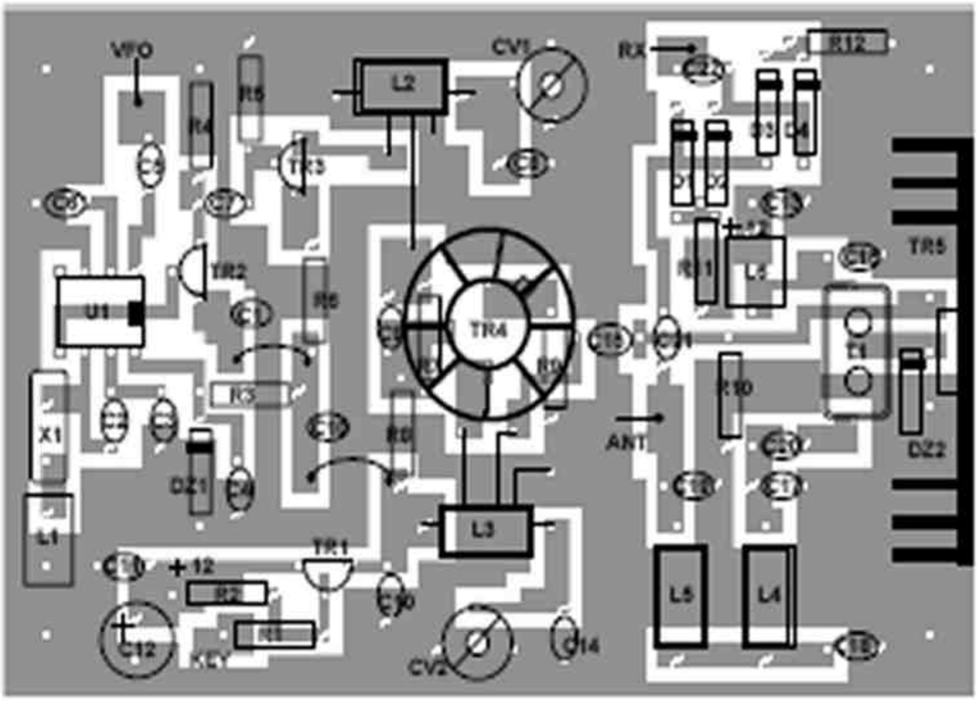
VFO



RECEIVER



TRANSMITTER



e) some final notes
The assembly is not particularly critical, however some care must be dedicated to the VFO and RX input stage, wich must be aligned carefully. The overall sensititivity and selectivity are very good, and so also the capability to handle strong overloading signals, in short the mixer and XTAL filter stages make well their job. Also the BF CAG system proved to be very effective, and the listening quality recalls a good IF system. Especially the CW envelope is very good, showing a very short attack and decay time.

73's and have fun on QRP !
IK3OIL, Francesco

If you are interested in further informations, or to get the PCB masters, please contact me at my Email box.
info@ik3oil.it
http://www.ik3oil.it/

HB9BQB's QRP rigs

Compact Bug-out comm trailer
By Ralph Fellows, W5FTV

The devastation of Hurricane Katrina and the catastrophe of the greater-Houston mass evacuation for Hurricane Rita retaught me the necessity of advance, thorough disaster preparation. After considering mobility options such as a new diesel powered extended cab 4WD truck, a small travel trailer, pop-up camper and more I settled on keeping my current 4WD Ford Explorer and adding a small cargo trailer. It seemed a reasonable cost choice which would enable me to move my small family and essential supplies on a moment's notice.

I decided that one primary requirement for the trailer was that it must fit inside my attached two car garage. That would eliminate recurring off-site storage fees and ensure that the trailer would be protected from weather and instantly accessible no matter what the local conditions might be. To that end I purchased a new five foot by eight foot box cargo trailer with a single rear door. It fit inside my garage door only after I let some air out of the tires!

At first, I envisioned simply keeping non-perishable supplies preloaded, and at the final moment, loading perishable and irreplacible items in the trailer. It didn't take long before I realized that the trailer had much greater potential. After a few brain-storming sessions it was decided to not only use the trailer for survival necessities but to add a few creature comforts and Field Day and real-world emergency amateur radio features.

Outfitting was begun by removing the original ceiling, front and wall panels. A single layer of aluminum foil-backed foam insulation was installed in the front and two side walls while the ceiling was doubled insulated with the same material to increase protection against the oft-blistering hurricane-season Texas sun. Expanding foam was used to fill remaining in-wall spaces and the original panels were then reinstalled.
RV type rubber-based paint was applied to the roof. A rust inhibiting and moisture barrier oil based paint was used on the frame and bottom side of the trailer floor.
Conventional water based white paint was used to brighten the interior. Steel gray
deck and porch paint was chosen for the interior trim. Carpet donated by a friend was put down after the floor was coated with the deck and porch paint.
Additional brake, running and turn lights plus reflectors and reflective tape were placed on the outside of the trailer to increase on-the-road visibility. A largish ABC fire extinguisher, major first aid kit, floor jack, jackstands, spare tire, lug wrench, chocks, emergency triangles, assorted flashlights, ultra-high-intensity chemical light sticks, tire repair kit, pressure gauge, canned-air tire inflator/sealer and 12 VDC air compressor augment safety. Keyed-alike high quality padlocks with spare keys were obtained for the door, battery box, interior bench seat and spare tire.

To increase storage capacity it was decided to fabricate side-opening cabinets extending almost the entire length of both the left and right sides at the ceiling line. A rear-opening door was included at the back of the right cabinet to facilitate storage of antennas and a telescoping fiberglass mast kept in capped PVC tubes. A shelf was placed above the PVC tubes. An RV pull-handle was installed on the right-rear of the left cabinet to aid in climbing into the trailer.

A cushioned, moveable bench seat/cabinet, to be normally stowed flush to the interior front wall, was also built. The cabinet interior was divided into two compartments. One for electronics with safety items and another for generator storage. Heavy duty handles were fastened to the cabinet ends to aid in moving the hefty assembly. A durable stained and polyurethane coated oak fold-down table was installed to the left wall to accommodate meals, radios and such. Brackets were affixed to the right wall to stowe solar panels and two higher-quality folding chairs. Care was exercised to not permanently fasten any fixtures to the floor so it could be used for sleeping with a queen size inflatable air mattress or sleeping bags.

Color-coded containers for gasoline and water stores were acquired along with energy bars and military style meals complete with chemical heater, entree, condiments, dessert, disposable utensils and drink mix. Gasoline is chemical-stabilizer treated and rotated at intervals. Water is also storage treated and rotated. A back-up sub-micron water filtration kit and iodine purification ensure an adequate supply of safe drinking water.

A hassock style toilet and extra chemicals were procured at a local camping store.

A 5,000 BTU air conditioner was purchased from a "big-box" hardware store. Two AC/internal-battery/external 12 VDC powered fans were bought for their power-source flexibility.

Provisions were made to employ power from external AC mains through a heavy gauge extension cord, a one KW gasoline powered generator, an on-board marine battery, six solar panels and DC-to-AC inverters. A metal enclosure was welded for the marine battery and positioned just aft of the trailer hitch. Because the enclosure top was partially blocked by the spare tire two stainless piano hinges were installed. The front hinge allows full-time access to storage in front of the battery while the rear hinge allows full-box access when the spare tire is dismounted.

Two combination AC/DC/RF panels were fashioned from aluminum diamond-plate for exterior-to-interior connections. An RV-type weather resistant AC receptacle was installed on the exterior panel with a corresponding home-type AC jack on the interior panel. A ten-guage circuit was run from the panels to the interior of the left overhead cabinet to power the air conditioner and a multi-outlet strip on the wall above the fold-down table. Six inch UHF series "barrels" handle RF signals while Anderson powerpoles make the DC connections.

Three conventional medium screw-base light-socket fixtures were fastened to the underside of the left overhead cabinet for above-the-table lighting. Power-miser twelve volt multi-LED lamps from Backwoods Solar were installed in the fixtures. A seven amp-hour gel-electrolyte battery in the left overhead cabinet provides more-than-ample power for the lighting.

Double-and-triple-pair parallel-connected Anderson powerpoles were employed for all 12 VDC load and source cables. This configuration makes it possible to contiuously chain devices to the safety limit of fuses and wires. A four gauge black/red cable pair is used to connect the marine battery to the external AC/DC/RF panel and pass DC to the trailer interior. Ring terminals and stainless hardware permanently affix the cable to the battery. A short ten-gauge cable for connection to devices outside the trailer, such as the solar panels, is likewise affixed to the battery. Both cables' positive and negatives leads are protected by low resistance type AGU inline fuses located close to the battery terminals.

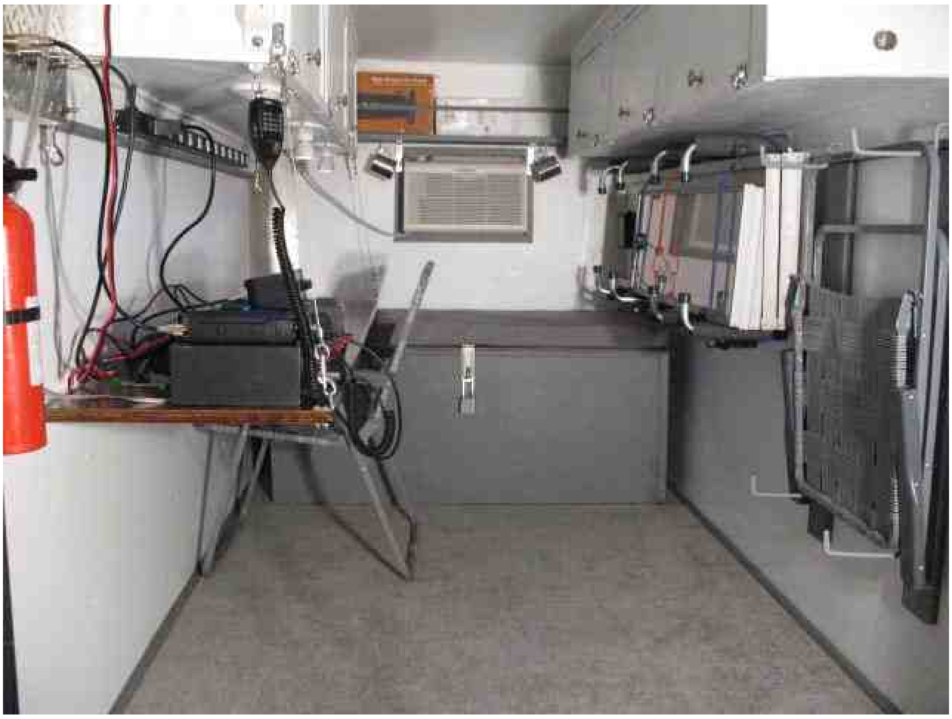
The ham radio equipment includes a Yaesu FT-817 "station in a backpack" and a Yaesu FT-897. Both have interal batteries and can be powered by external DC. An Alinco DR-620 provides the primary VHF/UHF capability. The first-line antennas are a 75/40 meter inverted V supported by a 30 foot fiberglass telescoping mast and a quater wave 75/40 meter NVIS wire. Band switching is accomplished by connecting or disconnecting double Anderson powerpoles to change radiating element lengths.

The inverted V can be set up quickly by placing the base of the fiberglass mast in one of two steel pipe sections welded vertically near the battery box. A Comet GP-8 VHF/UHF vertical on three five foot TV mast sections can be similarly erected in the second of the two steel pipes near the battery box.

Alternate antennas include a full set of Lakeview Hamsticks with matching coil/ incremental length whips and a Maldol HVU-8 compact vertical for 80 meters to 70 cm. An MFJ-904H tuner and MFJ-831 artificial ground are employed during HF operation. The artificial ground is connected to the trailer frame and aluminum skin through a pair of green Anderson powerpoles on the interior AC/DC/RF panel and a length of one-half inch braided low-Z wire. Quarter wave counterpoise wires can be connected to the trailer frame to enhance "ground tuning" for 75 and 40 meters. MFJ-259B and AEA VIA analyzers are on hand to test antennas. An MFJ-4416 battery booster is available to extend and improve performance when equipment is poweredby the marine battery. A 30 amp switching power supply is kept for opportunities when AC main power is available. A hand-held GPS, band/frequency charts, owner's manuals, quick references from niftyaccessories.com, a repeater directory, road atlases and additional hard-copy aids are on hand. A digital multimeter, replacement connectors, interseries RF adapters, extra coaxial cable, tools, spare fuses, common small batteries, Dacron rope, "Gorilla" tape, wrist rocket wire launcher and other items round out the inventory.

I'd like to extend my most sincere thanks to Bill Stevenson, K5CSB (carpentry) and his friend Larry Anderson (metal fabrication) for their generous and invaluable assistance with this project. Their pragmatic skills gave gave practical form to many a concept.

73's W5TFV, Ralph



Making a 28MHz rubber duck for the FT817
By Andy GØFTD

The main component in this design is the supporting rod, which the wire is wound upon.

I was given two flexible rods by a friend. They are sold as garden rods, used to support flowers and plants. They also glow in the dark - luminous! They are about 9mm in diameter. Unfortunately, I have not found a local supplier.

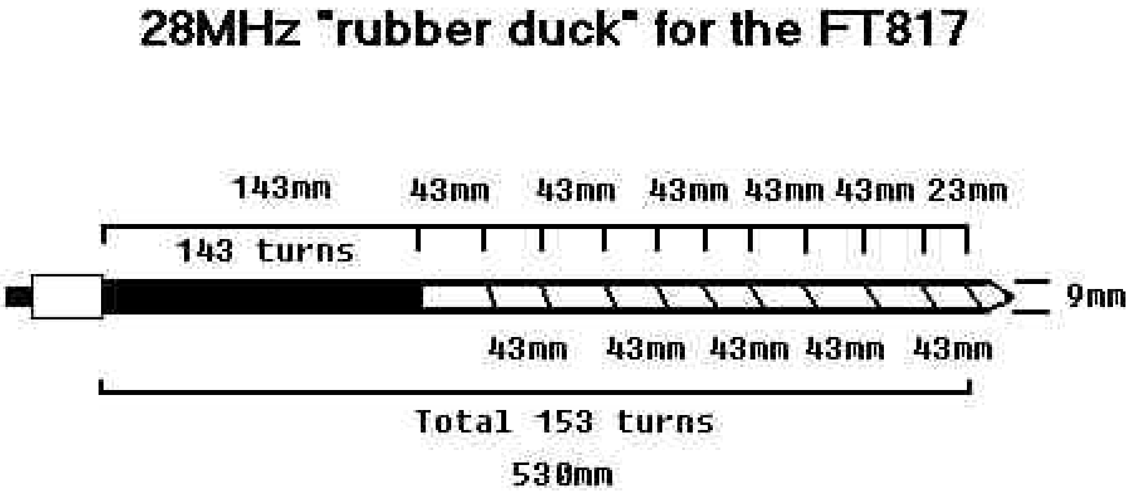
The rod needs to be 530mm for the antenna, plus about 15mm, which is inserted into a PL259 for RG8 style coaxial cable.

CONSTRUCTION

- Solder a suitable length of wire (7/02 guage, 1mm diameter PVC coating) into the centre of the PL259.

- Insert flexible rod into the PL259 (it easily fits ok).

- Now wind the correct amount of turns on to the 9mm rod, as shown in the diagram.



- Then use PVC insulation tape as shown here

- Add the PL259 <> bnc adapter.

SWR and Tuning

Firstly you must decide how you use your FT817.

Either you hold it with your hand (like FIG) or it is to be free standing. This is because the human body is part of the antenna, and must be considered.

Check the SWR using the internal FT817 SWR meter.

Trim the antenna wire by 5mm each time.

WARNING - the 5mm steps are critical, 5mm makes a large difference !

You will also obtain different results when tuning indoors or outdoors - you must decide.

FT817 internal chassis

RESULTS

During the summer of 2006 I made some QSO's with it. Best DX was from G<>EA8, and ES/UA/IK/EA with ease. My QTH was by the seaside in Whitstable.

I also discovered that the SWR is OK, if I sit down and hold the FT817 between my knee's. It is not a good idea to use the FT817 at the side of the body when using the carrying strap. There is too much attenuation by the human body.

WARNING!

It is easy to damage the FT817 with ANY antenna which is connected to the BNC socket.

Always be careful with any antenna connected to the front BNC, or damage of the FT817 internal chassis could result.
I have included a photograph of an FT817 internal chassis, which is made of alloy / aluminium.
It is not very strong. Be careful!

Have fun Andy G0FTD

THE DX NEWS

From the Web (tnx opdx, 425 dx news, arrl...)

7P8, LESOTHO

Ivan, UR9IDX, is expected to be (or is) in Lesotho and has received the callsign 7P8R. His length of stay is unknown, as well as his plans for operations (bands/modes) as this was being written. QSL direct only to: Ivan Borzenko, P.O. Box 85, Mari, Mariupol-31, 87531, UKRAINE.

8Q, MALDIVES

Just a reminder that Nobby, G0VJG, will be active as 8Q7CQ between June 1-15th. This will be a limited operation because Nobby will be on his honeymoon (and he thanks his wife for putting up with him and the QRM). Activity will be from Kuredu Island (AS-013) mainly HF SSB but some 6 meters. QSL via Owen, G4DFI. Visit his Web page at: http://g0vjg.piczo.com/?cr=5

8Q, MALDIVES

Tom, PF4T, will be active as 8Q7TB from the Island of Embudu between June 8-24th. Activity will be on 40 and 20 meters using SSB with a FT-897 and G5RV antenna. QSL direct to PF4T or by the Bureau via PA0LEY. For more details on QSL info, see (QRZ.com). Also, visit his Web page at: http://8q7tb.pf4t.nl

CY0, SABLE ISLAND (Attention Topbanders)

Randy, N0TG, informs OPDX that the CY0 Sable Island Dxpedition team will incorporate the famous "Battle Creek Special" antenna for 160 meters as well as 80/40m. This was made possible by the generous loan program coordinated through George, W8UVZ. The team thanks this special group for their support for not only for their CY0 operation, but for the many DXpeditions down through the years. The dates of the DXpedition are October 19-26th. operators are Randy/N0TG, Ron/AA4VK and Murray/WA4DAN. Visit their Web page at:
http://www.cy0dxpedition.com

E51, SOUTH COOK ISLANDS

Nigel, G4KIU, is now active as E51SC from the Island of Rarotonga (OC-013). He has moved to the South Cook Islands and is expected to be on 80-10 meters mainly on SSB, RTTY, PSK31 and with some CW. He was heard this past week on 20 meters PSK31 between 0330-0630z. Direct QSLs are to be sent to: Nigel Peacock, P.O. Box 880, Rarotonga, Cook Islands (via New Zealand). Please send a SAE, plus 2 USDs or 2 new style IRCs. Any direct cards received without the above items will be returned via the Bureau. Bureau QSLs go to: E51SC via G4KIU/RSGB. **IMPORTANT** There is no QSL Bureau in the Cook Islands. Cards without G4KIU on them will NOT be received. Please "DO NOT" send direct cards to any G4KIU address in England - they will NOT arrive. All E51SC contacts will be loaded to LoTW about once a week. He does not use e.QSL at all.

EI09, IRELAND (Special Event)

Members of the Galway Radio Experimenters Club are now active using the special event callsign EI09VOR until June 6th. Activity is to celebrate the Volvo Ocean Yacht Race which takes place in Galway, Ireland. Look for both CW and SSB operations. Over the past week activity has been on 30/20/17 meters. Operators will be operating from Mutton Island Lighthouse. QSL via EI8DD. For more info, visit their Web page at:
http://www.galwayradio.com

HF70/SN70/SO70, POLAND (Special Event)

Look for members of the Polish Radio Amateur Associated (PZK) to activate the following special event stations during the 70th anniversary of the beginning of World War II.

The "NO MORE WAR" stations will be on the air during various times between September 1st and October 6th. The following stations are:

HF70NMW (by SP6ZDA) - SN70N (by SP2CA) - SO70R (by SP4NDU) - SN70NMW (by SP4JCP/SN4L) - SN70O (by SP8NFZ) - SO70E (by SP4JAE) - SO70NMW (by SP3ZIR/SN3B/SQJPV) - SN70M (by SP9KN) - SO70W (by SP5PPK/SQ5NAE) - SN70R (by SP2YRY/SP2UUU) - HF70N (by SP5KDK/SQ7HNT) - SN70E (by SP1MWF) - SO70A (by SP9YGD) -HF70O (by SP2LQP) - SN70W (by SP2LNW) - HF70M (by SP8MI) SN70A (by SP2KMH/SQ2MMS) - HF70R (by SP4ICP) - HF70E (by SP5X) - SO70N (by SP2AYC) - HF70W (by SP2KDS/SQ2BXI) - SO70O (by SP9KAJ/SP9CLU) - HF70A (by SP5PSL/SP5JXK) - SO70M (by SQ9JKD)

MUSEUM SHIPS WEEKEND EVENT

The "2009 Museum Ship Weekend Event" is sponsored by the "Battleship New Jersey Amateur Radio Station" and will be held next weekend, between 0000z June 6th, and 2359z June 7th. As this was been typed, some 76 museum ships are participating. For an up-to-date listing of participating museum ships, frequencies and details on a certificate which is available, please visit:

http://www.nj2bb.org/museum/index.html

Activity will be on all HF bands, 80-10 meters, using CW, SSB and PSK31. Some ships will also use Amplitude Modulation (AM) with either their ships original equipment or modern equipment.

NEW AWARD AVAILABLE

Francis, F6FQK, informs OPDX that a new TP2CE Radio Club diploma is now available called: "Council of Europe Radio Amateur Club Award". Complete rules and photos are available on: http://ewwa.free.fr

OH0, ALAND ISLAND (Possibly OJ0)

Manuel, CT1BWW (SWL CT0783), will be active as OH0/CT1BWW between July 26th and August 7th. Activity will be on 80-10 meters using CW, SSB and RTTY. QSL via CT1BWW, direct or by the Bureau. Manuel may be active as OJ0/CT1BWW from Market Reef on August 1st. For more info, visit Manuel's interesting Web page at:

http://www.geocities.com/oh0ct1bww

PA6, NETHERLANDS (Special Event)

To celebrate the reopening of a 800 year old church tower (after its renovation) in Noordwijk, look for PA6JEROEN to be active between June 4-14th on HF and VHF. The old church is called "Oude of St Jeroenskerk" (in English: Church of St. George). Actual operations from the church tower will take place on two Fridays, June 5th and 12th. Pictures of this tower can be viewed on:

http://picasaweb.google.nl/jaap.pa7da/OudeOfStJeroenskerkTorenbezoekNoordwijk#

Please QSL only via the Bureau to PA7DA.

ADDED NOTE: Jeroen (St. George) was a Monk from Scotland and arrived at the Noordwijk (Nortgho) in 847. In 857, he built a Chapel on the place of this Church and did bring Christianity to the people in the western part of Holland and West Friesland. Later he had been killed by the Normans!

PZ, SURINAME

Mike, AJ9C, will be active from between October 22-29th. His callsign will be announced when it is assigned. He is expected to be active on 160-6 meters using CW, SSB and RTTY, as well as an entry in the CQWW DX SSB Contest (October 24-25th). QSL to his home callsign with SASE/USD(s) for return postage.

TK9, CORSICA (EU-014)

Members of the DXCiting Team will be active as TK9X between July 25th and August 1st. Activity will be on 160-6 meters using CW, SSB, RTTY and FM. Operators mentioned are: YL Silvia/EA1AP, Alberto/EA1SA, John/EA3GHZ, Raul/EA5KA, Paco/EA5RU and Alicia/EA5EWM. QSL via EA4URE, direct or by the Bureau. Visit their Web page at:
http://www.dxciting.com/tk9

U.K. TRIP

Bruce, ZL1AAO, informs OPDX that he is going on a "DXing and nostalgia trip to the UK for ex-GM1KNP". He wants to advise DXers and friends that he will be touring in the UK during July and August. Bruce will be using the UK country prefixes followed by his New Zealnd callsign (e.g. MM/ZL1AAO when in Scotland). He expects to be in Scotland, England and Wales (as he holidays around) and hope to include some activity from the Orkney Islands. Activity will be limited to mobile/portable operations using a FT857D, multi-band vertical or a tuner with long-wire. Mode will be SSB only. He will produce a special QSL celebrating his activity. Check (QRZ.com) for some more details and updates when he has more specific plans. QSL via his home callsign.

VP9, BERMUDA

Alex, W5YDX, will be active as VP9/W5YDX between June 10-24th. Activity will be holiday style (during his spare time) mainly on 20 and 17 meters (suggested freqs. between 14140-14265 kHz) using 100 watts into a dipole. QSL via W5YDX.

ZD8, ASCENSION ISLAND

Dean, KJ4GNB, is now active as ZD8DC. His length of stay was not known as this was being typed. Activity so far has been on 20 meters SSB. QSL ZD8DC via KJ4GNB.

ZK2V NIUE OPERATION UPDATE

Chris, ZL1CT/GM3WOJ, provided OPDX with the following operation update: "A quick update from ZK2V - made 6100 QSOs in 9 days, which is a bit disappointing - conditions poor, especially last weekend. Made only 1 QSO on 160m and 2 QSOs on 80m, so concentrating on the higher bands. Openings to Europe are often short with weak signals, which is lowering the QSO rate, but signals from JA and the USA have been strong. Will be on RTTY tomorrow (28th May) for about 30 mins sometime between 0600 and 0800 UTC (14082 approx QSX up 8) - will do more RTTY if things work well.

For the first time from Niue, I have a special permit to operate on 60m - from 0000 Niue time (= 1100 UTC) on 1st June 2009 until 0000 Niue time (=1100 UTC) on 8th June. I can transmit *only* on 5403.5 kHz (USB for USA, but CW for rest of world), but will listen on 5371.5 or another channel. The website www.zk2v.com is updated nearly every day - there is an online logsearch and all QSOs are uploaded to LoTW every few days. ZK2V is QRV for 25 more days and hoping for better propagation. QSL direct or via the bureau to N3SL (not ZL1CT)."

DX-CALENDAR

By SM3CVM

http://www.sk3bg.se/

- 30/5 TOGO; 5V7PM

by DL9MBI. Activity over the past weekend was on 20 meters, SSB, RTTY and PSK. QSL via his home callsign by the bureau. For direct cards, please send QSL cards to: Werner Peter Mueller, Plattenberg 2 1/2, D-84508 Burgkirchen, GERMANY (w/SAE and two green stamps. Otherwise the answer will be via bureau).

- 30/5 DOMINICAN REPUBLIC; HI7/OT4R

from Punta Cana. Activity will be on 20/15/10 meters SSB. Suggested frequency for 20 meters maybe 14300 kHz. QSL via OT4R.

- 30/5 ALASKA; N6IC/KL7 NA-041

from Douglas Island during a family visit. QSL via home call.

- 31/5 UGANDA; 5X4X

from Arua by DL8SBQ. He runs 100 watts into a spiderbeam for 20, 17, 15, 12 and 10 metres and a Zepp antenna for 40 metres. He has been pirated on 160, 80 and 40 metres - if you worked him during the evening hours, please note that Peter cannot operate after 20 UTC, because the power is off in Arua. QSL via DF5GQ.

- 31/5 CANADA; XL, XN, XM,and XO

Celebrating the 50th anniversary of the opening of the St. Lawrence Seaway, Canadian amateurs are allowed to use the following prefixes: XL (VA stations), XN (VO stations), XM (VE stations), XO (VY stations).

- 31/5 CANADA; XOØICE/2

by VE2TKH will be active from Quebec City to celebrate the 50th anniversary of the entry in service of the St. Lawrence Seaway. QSL via LoTW only (paper QSLs will not be available).

- 2/6 TANZANIA; 5H1HP and 5H1MS AF-032

from Zanzibar by DL2NUD and DL9MS. Activity will be on the HF bands and 6 meters, but an emphasis will be on VHF (EME/MS). Grid squares to be activated are: KI93RU and KI94RA.

- 3/6 NEW CALEDONIA; FK/G4JVG OC-032

from Noumea by 9M6DXX (G4JVG), holiday style while celebrating his 25th wedding anniversary with 9M6EVA. Activity will be SSB only, using 100 watts to 'fishing rod' verticals on 40, 20, 17 and perhaps 15 metres. QSL both operations via MØURX, direct or bureau. The logs will be uploaded to LoTW.

- 15/6 JAPAN; 8N5I AS-076

from Shikoku Island during the 2009 Shikoku Info Telecom Month. QSL via JARL bureau.

- 20/6 BANGLADESH; S21XR

with new call (earlier S21UGZ) from Dhaka by DU1UGZ. He operates in his spare time using a low band dipole. For the time being, he will focus on 40 and 80 metres SSB and RTTY, but in May he should get a beam for 10, 12, 15, 17 and 20 metres and hopefully a linear amplifier as well. QSL via home call.

- 20/6 NIUE; ZK2V OC-040

by ZL1CT. His 5-week expedition aims to give as many stations as possibile their first QSO with ZK2. Resources are limited, and he will operate mainly on 80, 40, 20 and 15 metres CW and SSB, with some activity on 30, 17 and 12 metres and some RTTY. QSL via N3SL. A log-search will be available at http://www.gm7v.com/zk2v.htm, and he plans to update it as often as possible.

- 1/7 CHAD; TT8CF

by F4BQO. He plans to operate CW and SSB on the HF bands. QSL direct to F4BQO.

- 20/7 JAPAN; 8J

Ten special event stations (8J040M-8J940M) from each callsign district of Japan will be active between 16 May and 20 July to celebrate the expansion of the 7 MHz band in Japan. QSL all stations via the JARL bureau.

- 24/7 NIGERIA; 5N0OCH

by DL3OCH. He plans to operate EME and on the HF bands (160-10 metres). Hopefully he will also go and operate from IOTA group AF-076. QSL via DL3OCH.

- 31/8 HONG KONG; VR2/F4BKV AS-006

mainly on PSK31 with some SSB during good propagation openings. His web site is at http://www.f4bkv.net/

- 30/9 CROZET I.; FT5WO AF-008

by F4DYW says he will be working at Alfred Faure Base on Ile de la Possesson. He plans to operate on 20, 15 and 40 metres SSB during his spare time, using 100 watts and dipoles. QSL via home call, direct or bureau. Look for updates on http://f4dyw.free.fr/index.php?langue=fr&contenu=ft5wo.html

- 31/10 JAPAN; 8J6SL AS-077

from the Kumamoto Museum to celebrate the 100th anniversary of Hisatsu (Railroad) Line (Steam Locomotive) on the Island of Honshu (JIIA AS-077-001). Activity will be on all bands and modes. Possibly 5 stations will be on the air. QSL via the JARL Bureau.

- 1/11 ANTARCTICA; VK0BP AN-016

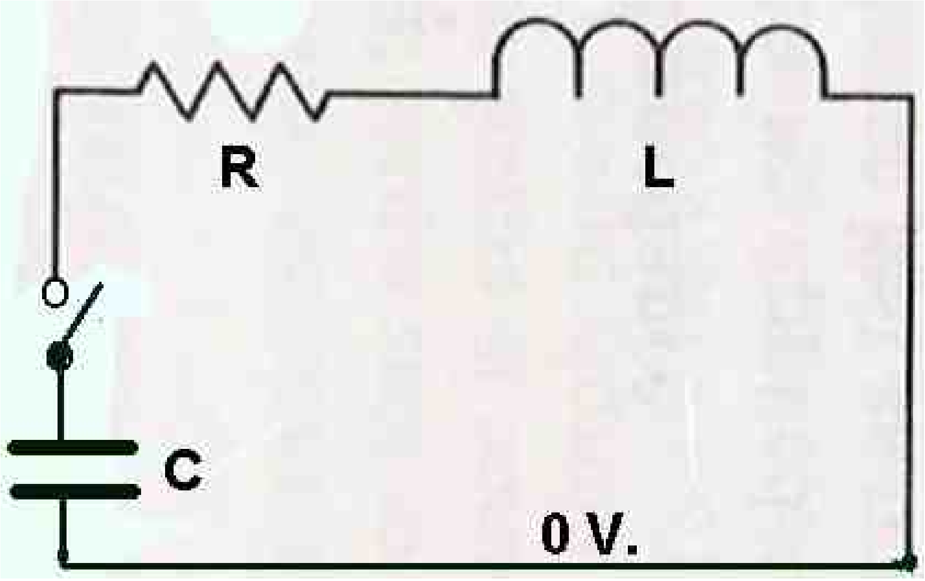
is currently working at Antarctic Davis Base Station, Gridsquare MC81xk. His activity is limited due to his workload, but he is expected to be on all HF bands. He seems to like 20 meters between 1500-1800z. Operations have been on SSB and PSK31, but he plans to operate on other modes later on during his stay at the Davis Station. QSL via VK2CA. PLEASE NOTE: There is also a possibility of activating other field huts in the area, and he will sign as VK0BP/P. Look for more details on his Web page at http://www.vk0bp.org/

OSCILLATING DAMPED WAVES By

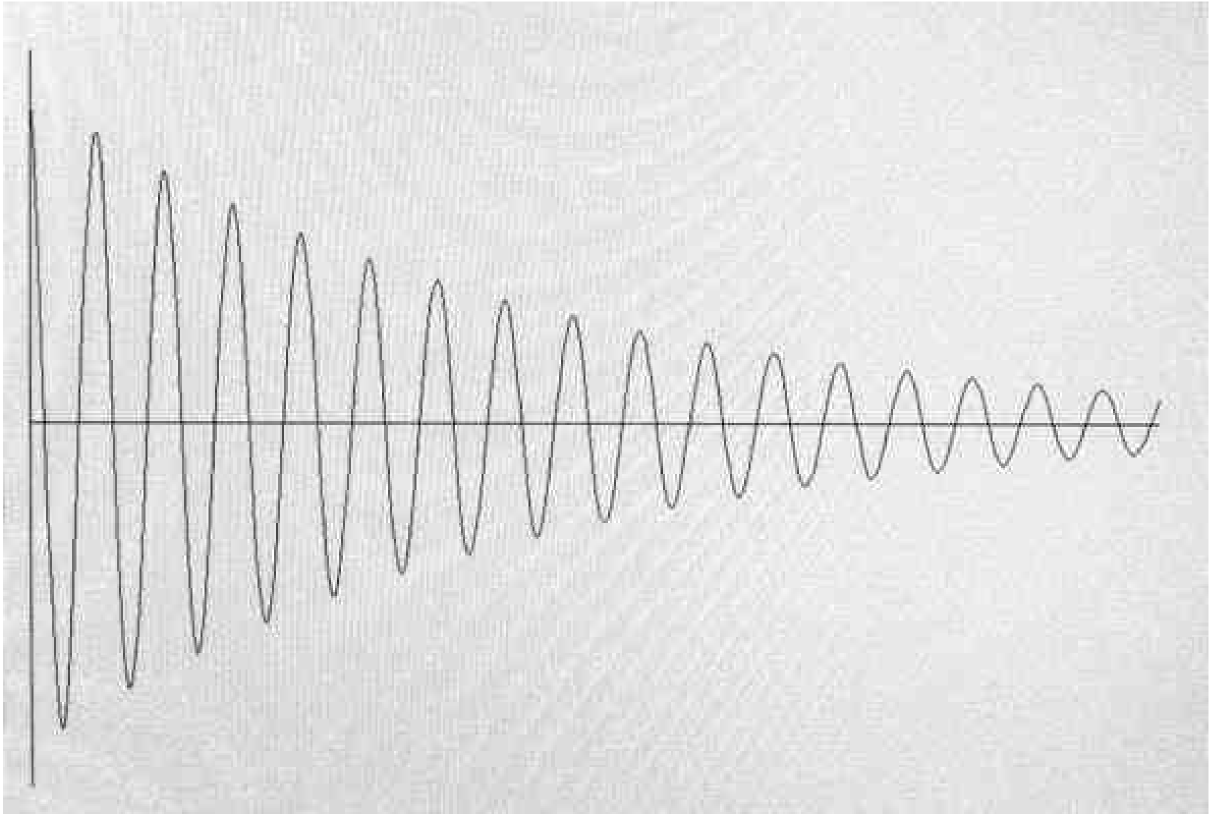
Prof. Arthur BLAVE Ir, ON4BX
E-mail: on4bx@tvcablenet.be

.

R L C CIRCUIT

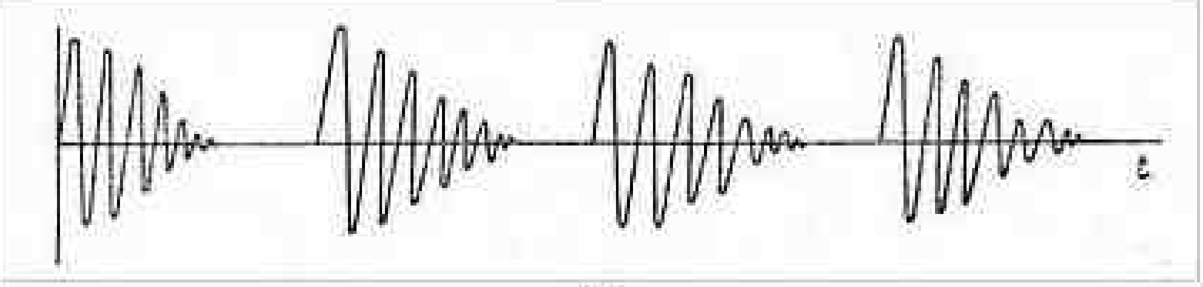


Vc



1.- History.

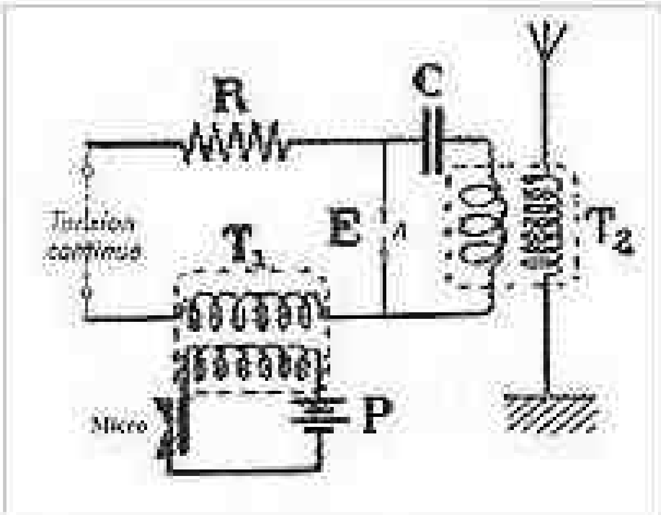
The waveform of the discharge of a capacitor into an inductive load has been well known for years.



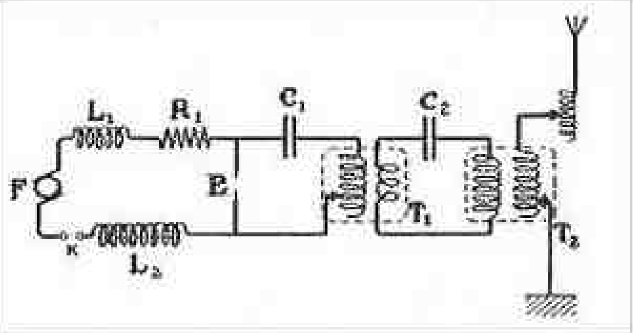
Trains of damped radio telegraphic waves made by a damped waves transceiver

In the past, radio transmitters were using such technique to generate bursts of waves, then modulated by cw and later by microphone. Before the discovery of the first electronic tube, that was the only way to communicate by rf!

A high voltage driving a spark could so generate bursts of damped waves into a coil, coupled to the antenna circuit..



Example of a radioelectric arc transceiver



Example of a radioelectric & radiotelephonic arc transceiver

TheTitanic ship was using such circuits to generate radio waves of 600m of wave-lenght for its radio-communications.

This is just the opportunity to invite the reader to consult the historic pages called « ondes amorties » into the well-known encyclopedia « WIKIPEDIA »
http://fr.wikipedia.org/wiki/accueil

Of course, the discovery of the triode has conducted to the construction of radio-transmitters of high-power and spark waves generators are now museum pieces…

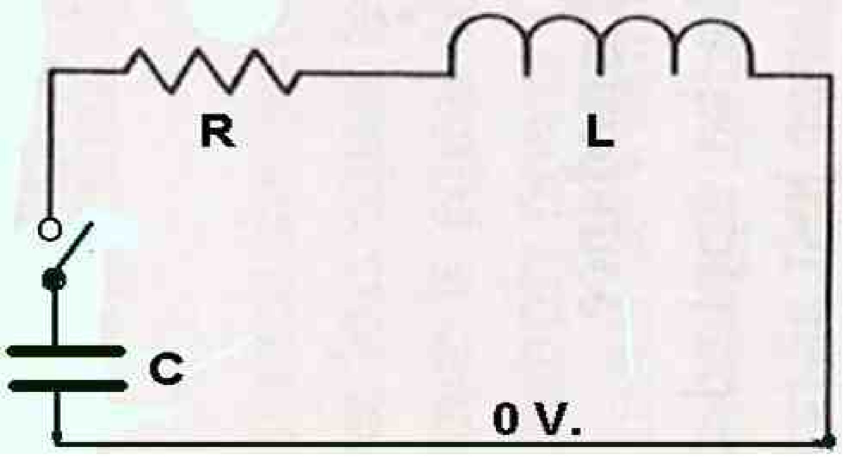
2.- CALCULATIONS

Actually, damped oscillating waves into a circuitry means usually problems of spurious, even or damage to the semi-conductors. We must say that at the present time, damped waves are usually not welcome.
But how to reduce their effect, more what can we do ? How can we interact with the elements of the circuit ?
Usually, if we have a physical idea of the processus, the exact calculation is not well known.
That is why I have written the full mathematical way to calculate a damped wave and where to interact to reduce
it's level. So we will be able to select the best choice of components, wiring, and how to dispose them in the chassis…

2.1.- First of all… A damped circuit may never been calculated via the conventional filters RLC theory.
Those calculations are correct only if the circuit is on stationary state. That means that you can then make all tests via generators, meters etc… Your results are independant of the time.

A damped wave is never in a stationary state ! Voltages and currents are always varying with the time. More, we are always sure that after an amount of time, the initial charge will be zero! the damped wave is over!

That is why we must calculate all using mathematicals fonctions like derivation, complex formulations including complex exponentiations. They will also use some complex trigonometrics equations



The capacitor has been charged via an external supply, removed when C is fully charged, into a stationary state. When we close the switch (at t=0), that voltage is applied into the inductance, associated with it's resistance.
A damped wave will start (probably!) as shown on the oscillogram.
We will study the waveform of the voltage capacitor during it's discharge into R.
Of course, the initial charge of the capacitor will decrease, will never stay into a same state and after some time, will be fully discharged. That is the end of the damped wave.
We will see later that depending of the value of the components, the waveform may be different… Even not present !

2.2.- DEFINITIONS :

Mathematicals fonctions around derivation will be used.
The symbol of the derivative of V is d(V) / d(t) for first order and d2 (V) / d(t2) is the second order.

Q is the initial charge of the capacitor.
We know that Q= C.Vc
i is the instantaneous value of the current into the loop and is linked to the variation of the charge still present into the capacitor. So we may write:

$$i = \frac{d(Q)}{d(t)} = \frac{C\,d(Vc)}{d(t)}$$

$$VL = -\frac{L\,.\,d(i)}{d(t)} = -\frac{L.C.\,d2(Vc)}{d(t)^2}$$

$$Vr = R\,.\,i = \frac{R.\,d(Q)}{d(t)} = \frac{R\,.\,C\,d(Vc)}{d(t)}$$

$$\text{and} \quad Vc + Vr - VL = 0$$

Note : the value of R is here the sum of the wiring resistance, the internal wire resistance of the inductance and also including the equivalent value of the charge coupled to the inductance (if any) and the magnetic losses. Also, the value of the inductance is the inductance itself added by wiring inductances…..

2.3.- RESOLUTION :

After replacement, equation is now:

$$Vc + Vr - VL = Vc + \frac{RC\,d(Vc)}{d(t)} + \frac{L.C.d^2(Vc)}{d(t)^2} = 0$$

We divide all by LC, we may do that because LC is never zero !. Now we write in correct order:

$$\frac{d2\,(Vc)}{d(t)^2} + \frac{R\,.\,d(Vc)}{L\,.\,d(t)} + \frac{1\,.\,Vc}{L.C} = 0$$

For easier calculations, we define alpha and omega as :

R/L= -2.α and 1/L.C= $(\omega 0)^2$

Equation is now :
$d2\,(Vc)/\,d(t)^2 - 2.\,\alpha\,.\,d(Vc)/\,d(t)+(\omega 0)^2.Vc=0$

The resolution of that equation will give the value of Vc in function of the time t.
It’s content is now only Vc Alpha and Omega. More, α and ω are only depending of R L and C.

Vc = A.e -x1.t + B .e-x^2.t where x1 et x2 are the solutions of the second order equation where the coefficients of X2 X1 X0 are the correspondents of the coefficient of the same level in the equation d2(Vc) / d(t)2 ………..

Values here are :

x2 - 2 α .x + $\omega 0^2 = 0$ second order equation where solutions are

$$\frac{-b \pm \sqrt{(b2-4ac)}}{2a}$$

values of x1 and x2.

x1,x2= $\alpha \pm \sqrt{(2-02)}$

The value of the two constants A and B must be fixed and are depending of the initial or final state values or the circuit. This will be done later….

Already, we may expect that should be linked to the loss of the initial charge because it contents a dissipative component R.

But the content of 0 is only L and C and should be probably linked to an oscillation form, of course if the study shows that there are one! At this level of the demonstration, nothing permit us to say that the damped wave, if any, will be exactly at 0 !!

Again we have to forget our usual rules of calculation of RL in a stationary state independent of the time!

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The resolution of that equation will give the value of Vc in function of the time t.
It’s content is now only Vc Alpha and Omega. More, and are only depending of R L and C.

The application of « de Moivre » equation is easy.
Abraham de Moivre calculated the fonction and told us that solution of Vc is : (see Wikipedia Encyclopedia)

$$Vc = A.e^{-x1.t} + B.e^{-x2.t}$$

Where x1 et x2 are the solutions of the second order equation where the coefficients of X2 X1 X0 are the correspondents of the coefficient of the same level in the equation $d^2(Vc) / d(t)^2$

Values here are : $x^2 - 2\,\alpha.x + \omega_0^2 = 0$

second order equation where solutions are $\dfrac{-b +- \sqrt{(b^2 - 4\,ac)}}{2\,a}$ values of x1 and x2.

$$x1,x2 = \alpha +- \sqrt{(\alpha^2 - \omega_0^2)}$$

The value of the two constants A and B must be fixed and are depending of the initial or final state values or the circuit. This will be done later….
Already, we may expect that ω should be linked to the loss of the initial charge because it contents a dissipative component R.
But the content of ω 0 is only L and C and should be probably linked to an oscillation form, of course if the study shows that there are one! At this level of the demonstration, nothing permit us to say that the damped wave, if any, will be exactly at ω0 !!
Again we have to forget our usual rules of calculation of RL in a stationary state independent of the time!

Now, we have three possibilities depending of the value of the term under the square root

$$\sqrt{(\alpha^2 - \omega_0^2)}$$

$$\begin{array}{llll} \textbf{1.} & (\alpha^2 - \omega_0^2) & = 0 & \textbf{equal to zero} \\ \textbf{2.} & (\alpha^2 - \omega_0^2) & > 0 & \textbf{is positive} \\ \textbf{3.} & (\alpha^2 - \omega_0^2) & < 0 & \textbf{is negative} \end{array}$$

α ω_0 are depending only of the selected values of R L and C. There are no restricted value for them so the three possibilities may be present.

2.3.1.- first possibility : . $(\alpha^2 - \omega_0^2) = 0$

Then x1 and x2 have the same value α

$$V_c = (A+B).e^{-\alpha T} \text{ is a pure decreasing exponential.}$$
$$A + B = V \text{ initial voltage of C}$$

Of course the initial value A+B is the initial voltage of C (when t=0).NO DAMPING WAVE AT ALL;

2.3.2.- second possibility : $(\alpha^2 - \omega_0^2) > 0$
X1 is different of X2 but both are real numbers.
Vc is now the sum of two decreasing exponentials, each with their own time constant. Same as 2.3.1 : NO DAMPING WAVE AT ALL;

2.3.3.- third possibility : . $(\alpha^2 - \omega_0^2) < 0$
Square root of a negative number is more difficult !
We must calculate with complex numbers j where

$$j = \sqrt{(-1)} \quad \text{and} \quad j^2 = 1$$

$$\text{then } x1,x2 = \alpha +- j\sqrt{(\omega_0^2 - \alpha^2)}$$

Calculation of the exponentials is now very difficult when the R L C are fully independants..
To be able to go further, we will now accept that our circuit is of good quality. That means that the total resistance R in the circuit is quite low and that the inductance L is of good quality, with low losses.

Then if $(\alpha^2 << \omega_0^2)$

$x1,x2= \alpha +- j\,\omega_0$ **and** $V_c =$

$$Vc= A.e^{(-\alpha - j.\,\omega).t} + B.\ e^{(-\alpha + j.\,\omega).t}$$

$$Vc= A.e^{(-\alpha t)}\cdot .e^{(-j.\,\omega .t)} + B.e^{(-\alpha t)}\cdot .e^{(+j.\,\omega .t)}$$

Or, we know that $e^{(+-j.\,\varphi)} = \cos(\varphi) +- j.\sin(\varphi)$

Then $$Vc= A.e^{(-\alpha t)}\cdot .(\cos(\omega t) - j.\sin(\omega t)) + B.e^{(-\alpha t)}\cdot .(\cos(\omega t) + j.\sin(\omega t))$$

We have now to fix the values of the constants A and B. A and B are constant so we may try to fix their value at any instant of the damped wave. The value t = 0 is specially interesting.
We know that in our physical circuit are inductance components. Even if the value of the coil is 0 (L=0!!) there are wires between the elements so even very small, there is always a positive value present under L. So at t=0, the current is still 0. The voltage has not yet started to decrease so d(V) / d(t) must be 0. We will calculate it and apply the values to 0

$$d(Vc)/dt= A.e^{(-\alpha t)}\cdot .(-\sin(\omega t) - j.\cos(\omega t)) + B.e^{(-\alpha t)}\cdot .(-\sin(\omega t) + j.\cos(\omega t))$$

At t = 0 we obtain:

$$0 = A.1.(1-(0.j)) + B.1.(-1+0) = A - B$$

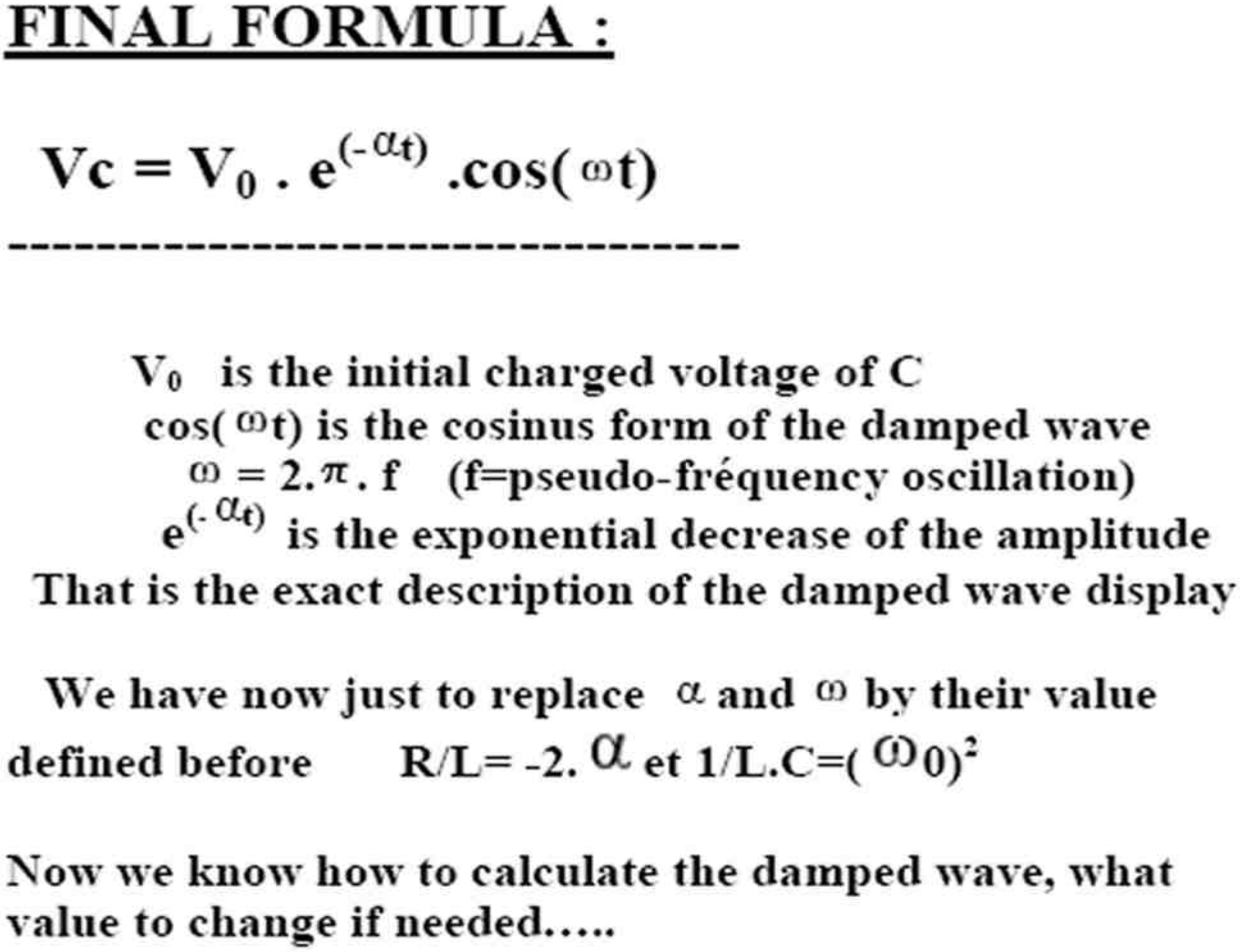
Conclusion: A =B

If we replace B by A into the equation of Vc:

$$Vc= A.e^{(-\alpha t).}.\cos(\omega t) - j.A.e^{(-\alpha t)}.\sin(\omega t)) + A.e^{(-\alpha t)}.(\cos(\omega t) + j.\ A.e^{(-\alpha t)} \sin(\omega t))$$

$$Vc = 2.A.e^{(-\alpha t)}.\cos(\omega t)$$

At instant 0, Vc is the initial voltage V_0 of the capacitor.



FINAL FORMULA :

$$Vc = V_0 \,.\, e^{(-\alpha t)} \,.\cos(\omega t)$$

V_0 is the initial charged voltage of C
$\cos(\omega t)$ is the cosinus form of the damped wave
$\omega = 2.\pi.f$ (f=pseudo-fréquency oscillation)
$e^{(-\alpha t)}$ is the exponential decrease of the amplitude
That is the exact description of the damped wave display

We have now just to replace α and ω by their value defined before $R/L= -2.\alpha$ et $1/L.C=(\omega 0)^2$

Now we know how to calculate the damped wave, what value to change if needed…..

COMMENTS :

1.- This calculation is only correct if we assume that we are close to a good circuit ! (2<< 02) !! Then the pseudo-frequency of the damped wave is exactly as calculate by values of LC.
If not, pseudo-frequency will be different and more and more far way than the value of the simple LC calculation. It will also move if the circuit is more complex, with non-linear components : drift is then possible….

2.- Usually, damped waves are present when a sharp step of voltage appears into the circuit. For example, within switching power supply at high power, fast speed commutation of voltages in tx, pulse generators.….. Most of the time, that is a perturbation non wished !

3.- At very high frequencies, wires between the elements are also affected by an amount of self-inductance with a value even very low, but able to generate damping waves during commutations voltages… So you have to study the circuit to minimise those wiring inductances

4.- Note also that at the first half-period of the cosin wave, the voltage change of polarity and is usually close to the initial voltage of C but reverse ! If semi-conductors are somewhere in the circuit, they will have to support usually a high reverse voltage… .

that means a immediate breakdown! You must install a protection circuit around your semi-conductors to protect them of those reverse voltages.   Damping waves in high power system is frequently causing lots of trouble, moreover when attention has not been paid for them!

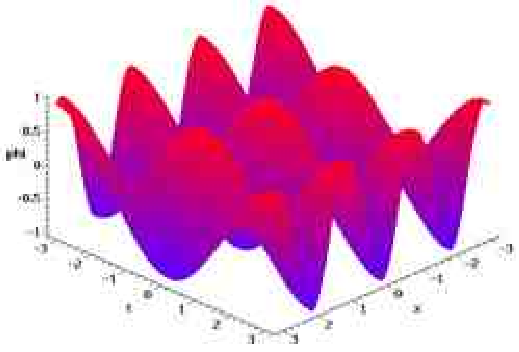
5.-May I suggest the reader to try some experiments and generates such damped waves?
The capacitor may not be polarised. (voltage oscillating over and under zero volt).
It can be charged via an auxiliary DC power supply with a serial resistor to permit the charge ,but high enough to avoid any perturbation during the generation of the damping wave.

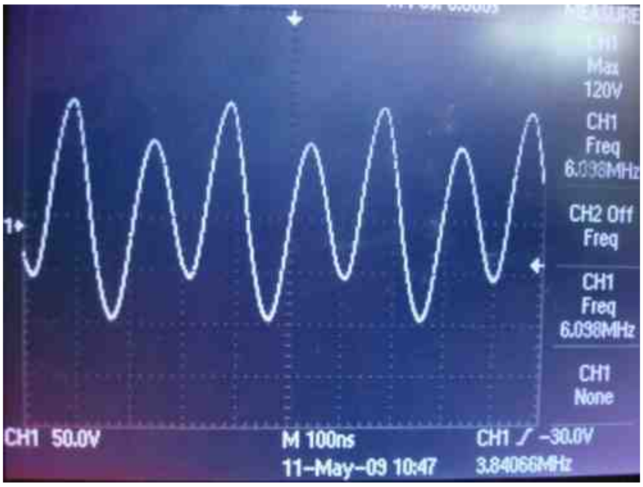
Usual low voltage can be used as charging voltage.
To display the wave, a memory scope can be connected at the capacitor. It will be selected as single trace, triggered by the capacitor voltage itself.
A non-memory conventional scope can also be connected but you will probably design your circuit for slow damping waves, or with a long persistence scope if any….

If you do those tests, you may have some problem with the shorting switch!! Conventional switches have a usually a bounce of the mobile contact during the mechanical commutation. So there are a few interruptions before the contact is really fully fixed. If the duration of that bounce is close to the pseudo-period of the damping wave, you may see something like stroboscopic effects! The display may be fully distorded!
The only correct way is to use a small mercury-wetted relay. Due to the capillarity, there is a mercury bridge between the moving and fixed electrodes during the mechanical commutation of the reed switch. There is no bouncing at all and the switching is perfect.

6.- Note: For more complex calculations, see also into the book
“Reference data for radio engineers”
(published by Howard W. Sams & CO.,inc   ITT)

73's from ON4BX





Chuck Blaney
WW2 radio operator & prisoner of war

A WINDOW IN TIME.... is the story of a B-24 bomber crew that formed up at Mountain Home Air Base, Idaho, in 1944; shipped over to England where they were stationed at Seething Air Base; flew the first combat mission to Eurskirchen, Germany on Christmas Eve 1944; got shot down exactly three months later while bombing a target near Hamburg; were held prisoners and repatriated at war's end and reunited at a 50th anniversary reunion celebration set up by a German who saw the bomber crash while he was serving in the Hitler youth Corps.

This was an episode in the life of Charles W. "Chuck" Blaney. He was the Radio Operator/Top Turret Gunner aboard the B-24 bomber named "Do Bunny" shot down 25 March 1945. Chuck Blaney was born in Chicago in 1925. His father worked for Pullman Co. converted from making railroad cars to making Assault Landing Craft during the war years. His mother--get this--was a "Rosy the Riveter" in a Chicago Ford Plant converted from autos to assembling B-24 Liberator bombers. Chuck enlisted in July 1943 and volunteered for the Army Air Corps. He completed his Radio Operator/Mechanics Training Course at Sioux Falls, South Dakota, and Gunnery School at Yuma, Arizona. Following crew formation at Lincoln, Nebraska, they went to Combat Crew Training at Mountain Home Air Base, Idaho. They were then sent to Topeka Air Base, Kansas for combat assignment and were selected to become part of the 448th Bomb Group, Eighth Air Force in England. In November 1944 the crew left Fort Dix. New Jersey and embarked on a sea voyage to Liverpool, England and moved to Seething Air Base as part of the 713th Bomb Squadron.

Following the war, Chuck earned his BSEE at American University in Chicago and spent the next 30 years with several aerospace companies in various defense related engineering positions. Chuck ended his career as Manager of Product Marketing for Northrop/Grumman Aircraft Corp. after 23 years of service. Chuck is an Associate Member of the Colorado Springs Chapter of the Daidalians. He is also a life member of the American Ex-Prisoners of War and the American Disabled Veterans.

Here is Chuck's story:

A WINDOW IN TIME

By Chuck Blaney

The Crew

The date was the 25th of March 1945 and the target was the underground oil facilities at Buchen, Germany (about 6 miles east of Hamburg). The 448th could have easily stood down this day. Yesterday's costly mission took a toll of eight B--24's that were lost to ground fire when we dropped supplies to 40,000 British paratroopers that had just crossed the Rhine River at Wesel, Germany. This was a specially designed mission that took us over the battlefield at 100 feet for a parachute drop of medical, food, ammunition and a Howitzer Cannon that was stowed in the cavity where the ball-turret had been removed. Admittedly, this was not a great mission for the high flying B-24. So much for low level missions using the heavy bomber. After 2 hours of forming we departed Seething Air base at 0600 as a 28 plane formation. We were on our 23rd combat mission with only 7 more to go before being rotated back to the states. Severe weather over the North Sea resulted in one squadron becoming detached from the rest of the 448th Bomb Group. However, the remaining 20 bomber formation proceeded to the designated target. As expected, flak was experienced over the Dutch coast and again around the target area. The bomb-run at 20,000 feet was successful and the target was destroyed with precision.

At bombs-away the formation was attacked by a swarm of ME-262 jet fighters. Coming out of the sun, the world’s first jet aircraft concentrated on our below strength bomber group. This would prove to be a costly day for the 448th. Four bombers would be shot down over Germany and two would manage to make it home only to be written off as salvage.

ME-262 fighters attacked Lt. Steffan’s B-24 and the bomber blew up in midair. Only the Navigator, Lt. Gottlieb, was blown free from the nose and managed to open his chute. He was the sole survivor of this nine-man crew. He was captured and taken POW. On the next fighter pass Lt. Stallard’s B-24, our lead bomber with the radar bombing equipment, was strafed across the flight deck. The attack killed or seriously wounded several of this twelve-man crew, including both pilots. Within seconds the plane went into a tight spiral to the ground. The right wing and then the other wing broke away from the fuselage. The plane then exploded and eventually crashed into a shoe factory in the town of Schneverdingen. Only three of the crew managed to bail out and survive as POW’s. They were Lt, Whitson, Pilotage navigator, Lt. McHugh, Bombardier, and S/Sgt Glass, the Radio Operator. Lt. Todd’s bomber was mortally hit and did a right turn north for Sweden. The plane managed to get to the Swedish coastline and ditched in the Baltic Sea. Seven crewmen, all but the pilot and co-pilot, survived. They were interned in neutral Sweden for the duration of the war.

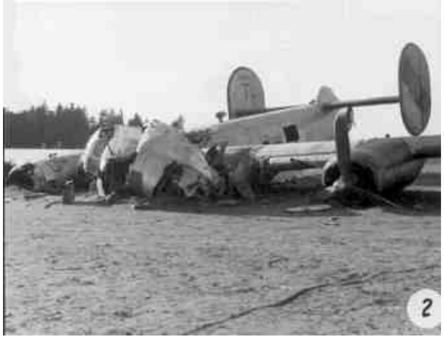
Our B-24, Do Bunny, piloted by Lt. Paul Jones, immediately took extensive damage including the loss of one engine on fire. The engine was subsequently feathered and the fire extinguished. We maintained formation until a second ME-262 pass on the squadron. This time we responded with all four gun turrets blazing 50 caliber bullets. However, we took several more 20 MM cannon hits, including the loss of a second engine that proved be fatal. Time seemed to stand still. The flight engineer was knocked out of his top turret and he dropped to the flight deck. The Plexiglas in the rear turret shattered in the tail-gunner's face. Fuel and hydraulic fluid from pierced pipe lines were pouring and swirling out of the still open bomb bay which we were never able to close. Do Bunny was in real trouble.

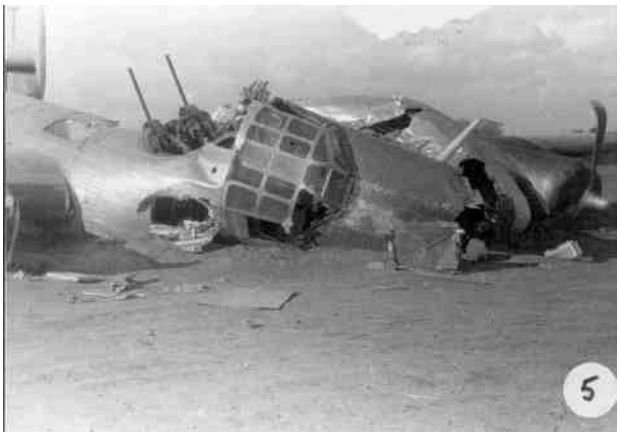
After the second fighter pass we were forced to drop out of formation. We began a gradual decent to lower altitude. Jones ordered all crewmen to prepare for bailout. He also instructed the crew to lighten the aircraft. We threw out everything that was not nailed down -- flak suits, oxygen bottles, ammunition, the waist guns, and even the radio equipment.

Our navigator, Lt. Herman Engel, could see the heavy clouds of smoke caused by our heavy bombing in the Hamburg area. He was able to set a coarse towards Wesel on the Rhine where the British Paratroopers had landed just the day before. I guess that we never really expected to make the Rhine but we did not have many options to consider. We were 220 air miles from friendly territory and we had flown about 50 miles in our crippled condition. Then a third engine over heated and had to be feathered. It was now evident that Do Bunny was not going to make it back.

On our sixth mission we had experienced an emergency landing with our skipper at the controls. We had been on a typical bombing mission to Worms, Germany when we lost a single engine to flak over the target and a second engine became marginal. Jones maintained formation until we were over friendly territory. Rather than risk the 120 mile run to England over the icy North Sea, he elected to make an emergency landing. We landed on the only runway we could find, which was a PSP mesh fighter strip on the outskirts of Brussels, Belgium. Needless to say, we ran out of this short runway in a hurry and settled in the Belgium countryside. Our B-24, Pregnant Lady, was written off as salvage as two engines were completely burned-out during landing. The successful emergency landing was a great confidence builder for the crew and especially for our pilot. We were indeed grateful for his judgment and piloting skills. The crew had all discussed how difficult our chances of survival might be should we have to bail out over enemy territory. In those days, late in the war when the conflict was going badly for the Germans, the civilians and certain military personnel like the SS and Gestapo were reported to be killing downed Allied airmen. This fact came straight from our Air Force Intelligence at mission briefings. The best chance, if possible, was for the crew to stay together as a group with the hope that the Luftwaffe or the regular German Army would take prisoners of war. This previous emergency landing had a great deal to do with the decision to ride out any subsequent crash landing in enemy territory. Another primary factor in our current situation was the extreme low altitude reached after we lost the third engine. It appeared doubtful that we could survive a bailout under all of these conditions.

Lt. Jim Mucha, our copilot, selected a suitable flat area directly along our flight path to set down our crippled B-24. We landed wheels-up in a field only 500 yards from downtown Soltau, Germany. Jones struggled with the controls just to keep the wings level. The crew had assumed its ditching positions. All went well until a wing dipped into the ground as we lost speed and then all hell broke loose. When that happened the plane just broke apart.





The three crew members in the waist, the tail gunner, the waist gunner and the ball turret gunner were able to jump out of the plane onto the ground. The cockpit was split wide open so the pilot and copilot were able to crawl out of the wreckage. All five were immediately confronted by angry town folk with pitchforks. Then two SS Officers appeared on the scene and the five were run into town and up against the wall of the Mehr Hotel. They were eventually taken control of by a German Officer in the Wehrmacht Army who was in charge of the Soltau Riding Academy. He had his soldiers and the manpower to take control over the civilians and the SS. He took the crew to the Riding Academy and locked them in the stables.

The remaining four of the crew, the Navigator, Flight Engineer, Nose Gunner and I, the Radio Operator, were trapped on the flight deck and still in the wreckage. We were pinned there when the top turret broke away from the airframe and lodged in the flight deck well. The Navigator and the Flight Engineer were unharmed and finally got out after German soldiers axed their way into the fuselage. The Nose Gunner and myself were not so lucky. The top turret had pinned our legs which were broken. The soldiers, including the town Burgomaster, spent considerable time and effort to hacksaw and pry the top turret enough to set us free. They put us on a horse drawn cart and took us to the town hospital where our legs were set and put in soft casts. We then rejoined the other crew members that were now locked up at the Riding Academy. The next morning troops from the German Luftwaffe arrived from a nearby ME--262 air base took over. Lt. Grauenhorst, the Riding Academy Officer, was relieved because he had been worried about the SS Officers and his confrontation with them the day before. We stayed at the air base one night and were then transported to Penneberg, an interrogation center for captured airmen. After four days in single solitary cells (the kind of stuff you see in movies) we were taken to Hamburg and shipped in railway boxcars, with other recently captured airmen, to Stalag Luft I Prison Camp in Barth, Germany. To this day, my copilot, Jim Mucha complains about having to carry me on his back through Hamburg but I counter by reminding him that I took all of the rocks thrown as we were paraded through the streets.

In late May 1945, the Russians liberated our prison camp. Just before the Russians overran the area the Prison Commandant ordered an evacuation and forced march of all prisoners. Colonel Zemke, our senior camp officer, refused to give the order to march. The next day revealed that the German guards had fled during the night and left us to our own device. Colonel Zemke, along with Lt/Col. Gabreski, went out to meet the Russians to make sure that they didn't mistake our camp for a German area and shoot up everything in sight. These Russian troops were the advanced units with a search and destroy mission. Our senior officers made arrangements with the Russians to contact the Eight Air Force and advise them of our situation. It was then just a matter of time before the 8th Air Force flew into the airfield in Barth to get us the hell out of there. All 7,717 American Airmen from Stalag Luft I were flown to tent cities in France to join 90,000 other liberated Americans to await transport back home. Some prisoners had been incarcerated for nearly four years during the US Army Air Corps 1,000 day War over Germany.

A young 12 year old German boy, who was a member of the Hitler Youth Corps, watched our crash landing. Gerhard Bracke was that boy's name.

Today Mr. Bracke is a University Professor and a part time WW II aircraft historian. It was during this past year that he made it his goal to find out what happened to the crew in the bomber that he watched as it crash landed. Many of the details, that we never knew from the German viewpoint, were revealed by Brache's research. He was instrumental in locating the survivors of that crash still living today, and brought us together for a 50th anniversary reunion in Dayton, Ohio during the fall of 1995. Gerhard Bracke flew in from Germany to join us for the celebration. The German Officer in charge of the Soltau Riding Academy was a Lt. Joachim Grauenhorst. He watched our B-24 pass directly over the academy and thought it would explode any minute. But there was no explosion nor any sound of any crash so he assembled several soldiers and took off to find where the bomber had gone down. In locating the wreckage, he directed all his attention to freeing the trapped crewmen inside. He then went into the town square where the others were herded. An SS Officer was inciting the angry German civilians and Lt. Grauenhorst initiated an argument with the SS Officers as to who had the authority to take the prisoners. It was probably only because Grauenhorst had several soldiers with him under his command that he was able to take those crew members back to the Soltau Riding Academy stables. He probably saved all of our lives.

Lt. Joachim Grauenhorst, a Wehrmacht officer assigned to the Riding Academy at Soltau

The reunion in Dayton was a huge success. Gerhard Bracke arrival from Germany was a complete surprise. Of the nine original crewmen, five are still alive. Four of us made it to the reunion; Paul Jones, the pilot; Jim Mucha, the copilot; Herman Engel, the navigator; and me--the radio operator. Mr. Bracke brought additional information he had gathered on our crew such as the official missing crew reports from other bombers that had seen the four bombers of the 448th Bomb Group go down that day. Bracke also had the biography of the German pilot, a Lt. Rudolf Rademacher, who shot us down. Rademacher had 118 victories in the ME-109 and 8 more in Luftwaffe's hottest jet, the ME-262 (At least we were not shot down by an amateur). Lt. Rademacher survived the war only to die in a glider crash in 1953 about 10 miles from where we crash landed. Poetic justice.

Bracke also brought a personal letter from Lt. Grauenhorst who still lives in Soltau and a letter from the Mayor of Soltau inviting our crew to a City Of Soltau reunion in 1996. A highlight of Bracke's research was his uncovering of five photos of our crashed bomber that laid in the archives of the Soltau newspaper since 1945. What a treasure to acquire after all these years.

So, that is my story. Four planes shot out of the sky in minutes and only our crew survived intact. With hundreds of holes in our B-24, no one was seriously wounded or killed. Why didn't the plane burn or explode in flight or upon crash landing. Was it just luck or was God the "tenth man" man in our crew that day. --- I would like to think that he was.

Lt. Rudolf Rademacher the German pilot that downed our plane on March 25, 1945.

The Crew:

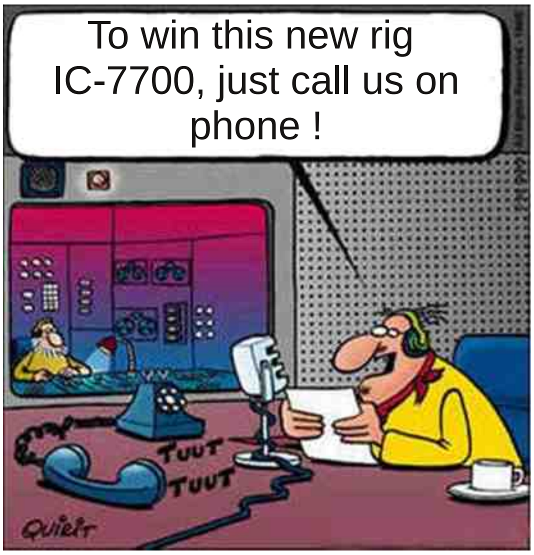
*Paul Jones Pilot Owensboro, KY - James Mucha Co-pilot McDonald, PA - Herman Engel Navigator Brooklyn, NY - Charles Blaney Radio Operator / Top Turret Gunner Chicago, IL - Leonard Dailey Flight Engineer / Top Turret Gunner Beaumont, TX - Albert Bentley Ball Turret Gunner Atlanta, GA - Edward Danicki Tail Gunner Milwaukee, WI - Alvin Stout Waist Gunner Arvada, CO - William Wilson Nose Gunner Willamston, S*C

More informations here : http://www.merkki.com/

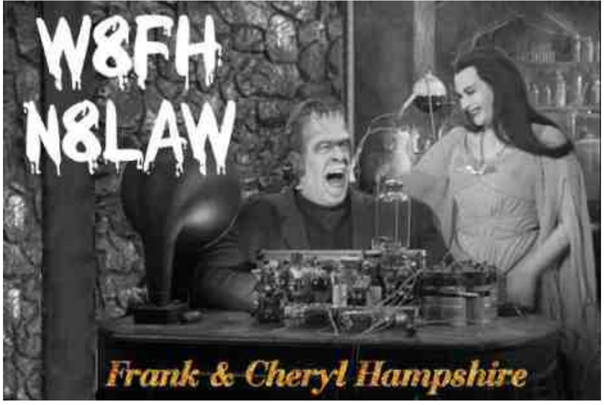
COMIC'S HAM

Have some fun

Yes, there is an antenna on this photo !


To win this new rig IC-7700, just call us on phone !
TUUT
TUUT
Quirit

THE QSL OF THE MONTH



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Thanks to : M5AKA, ON4SKY, SM3CVM, WØRAA, W3FF, WB8YWA

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To live HAM-MAG needs you.
Any help is welcome.
Send us articles, informations.

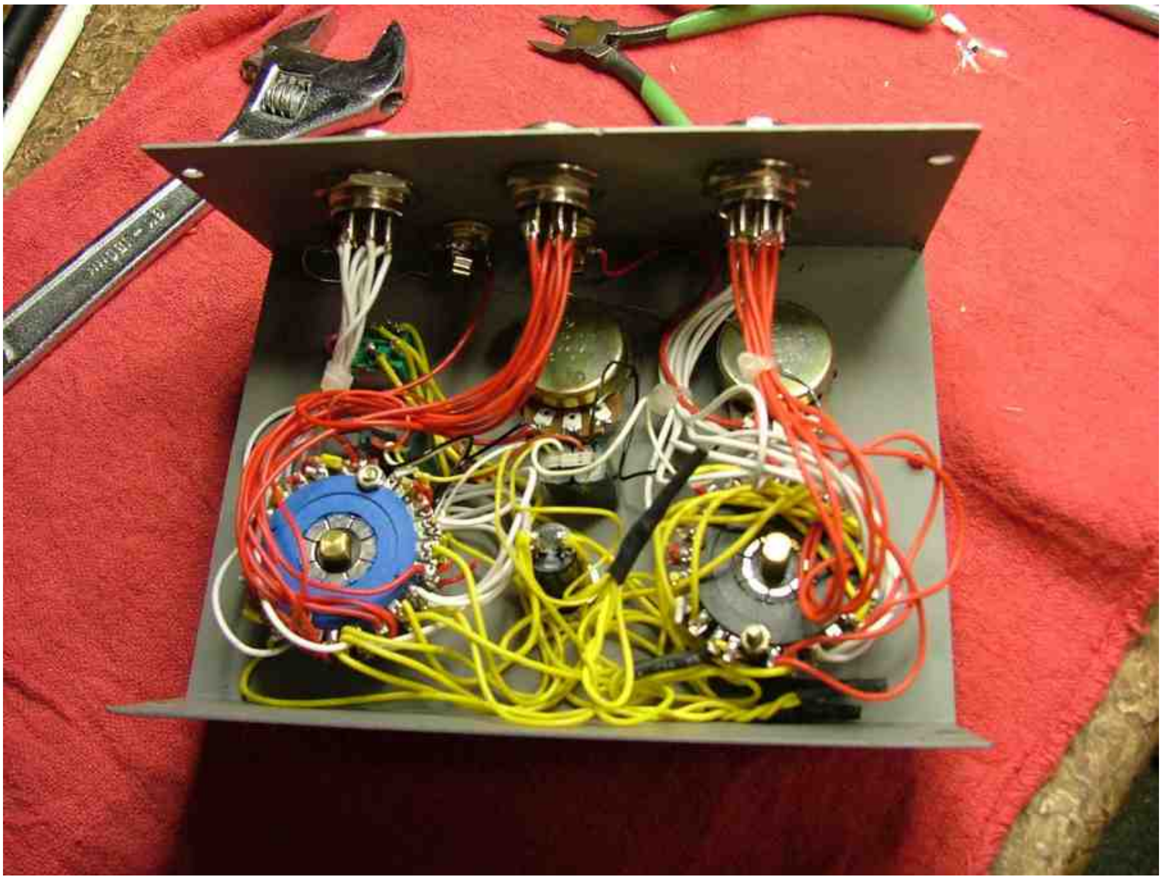
We have received few articles for this issue
and we have almost nothing for the next one !

A neat MIC Switch with Sound Card Interface
By WB8YWA, Jim

First I had a problem that most Ham's face, couple of rigs, wanted to use same MIC, wanted both rigs to have the ability to operate PSK31 & MMSSTV. I did a lot of cable swapping while I look for an 8 Pole 2 Position switch. I found all the parts easy that I needed accept these 8P2T switches. Then one day while cleaning out my junk boxes I found some old left over computer data A/B switch boxes. I open it up and found an excellent 25 Pole 2 Position switch with just the correct length of wire color coded for my project. Note: these A/B switch boxes are found at flea markets all the time and come in all configurations, but all have at least 9 poles. Some have more than 2 Positions if you want to switch more MIC's or Radio's.

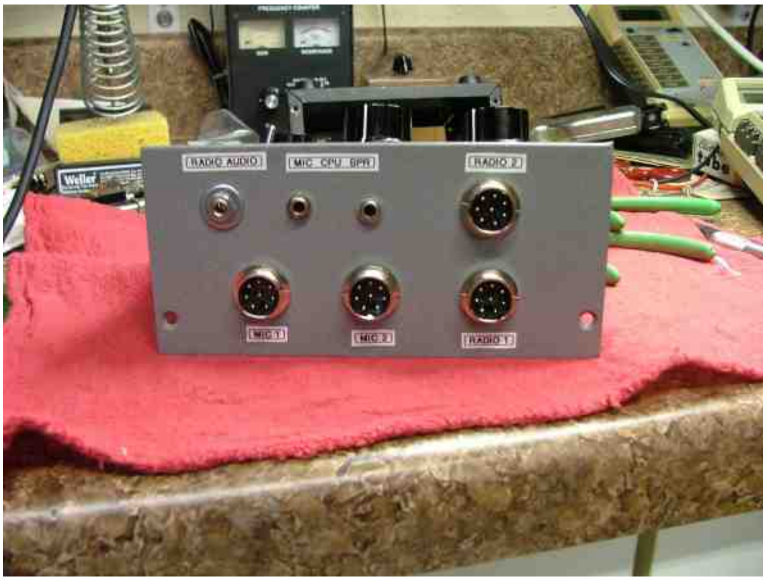
I wired two of these switches using the common of each switch and the other 2 Poles to the four 8 Pin Female MIC Jacks, two for two rigs and two for two different MIC's (Desk & Headset). Then I switch pin 1 and 8 (ICOM Audio in and out) of the common wires with a 2P2T Toggle switch, one pole to 1:1 audio transformer and 10K pot for the Sound Card and the other back to the common wiring for MIC use.

Inside wiring and part placement look at picture;



st I also installed a push button (push on – push off) switch that is also wired to pin 5 and 6 (ICOM push to talk pins). This allows keying while using headset or if keying is not done through the computer on the data mode.

Back side showing MIC and audio connectors look at picture;



Picture of Switch Completed showing front panel;

This switch can be custom made for any type of radio; the enclosure can be any style but feel you should use solid metal for RF Shielding.

Wiring for the 1:1 and 10k Linear Taper is:
For Radio MIC to Computer Speaker - Wire one side of 1:1 transformer to arm of 10K and other lead to end of 10K. Wire computer jack to this same terminating point. Other end of 10K is wired to ground. Second winding of 1:1 Transformer is wire to ground with one lead while the other lead is terminated to the 2P2T switch that would be Pin 1 (MIC Audio ICOM).

For the Computer MIC to Radio Audio - Wire one side of 1:1 transformer to arm of 10K and other lead to end of 10K. Wire computer jack to this same terminating point. Other end of 10K is wired to ground. Second winding of 1:1 Transformer is wire to ground with one lead while the other lead is terminated to the 2P2T switch that would be Pin 8 (Speaker Out Audio ICOM).

Best 73's ! Jim WB8YWA

Want to creat pile-ups? Try SI9AM !
By SM3CVM

Calling CQ, CQ. This is SI9AM calling.

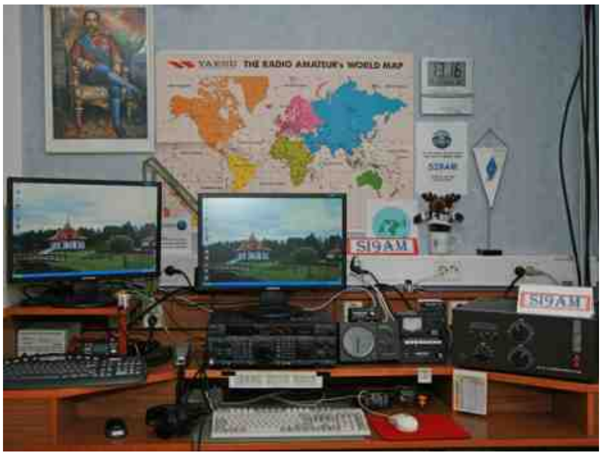
King Chulalongkorn's Road follows a undulating landscape down to a little valley. Something white can be seen occasionally between the trees; suddenly it turns out to be a most unusual kind of building in this part of the world. A fascinating building stands there, exotic and beautiful, in the middle of the Nordic scenery. We have arrived at the King Chulalongkorn Memorial Building in Utanede, Jämtland, the only building of its kind outside Thailand.

History takes us back more than a hundred years. In 1897, King Chulalongkorn travelled from Siam (since 1939 known as Thailand) to Stockholm in the Kingdom of Sweden. He also went further north to acquaint himself with the Swedish forest industry. On the way back he passed through Utanede to the Indal river valley and on the river to the sea coast. The visit of a royal guest from far away raised a great deal of interest among the local population.

In memory of the event, the little gravel road through the forest that the king had been travelling was later named King Chulalongkorn Road. The rumours about the road was spread in Thailand and Thai monks began to come to Utanede to walk on the beloved king's road. Little by little, contacts were created between Ragunda municipality and Thailand, and these eventually led to a decision to build the King Chulalongkorn Memorial Building. Construction was started in 1997.

How does amateur radio fit in this? Enthusiastic radio amateurs from the SM3 region saw here a possibility to set up a facility for visitors who would use a well-equipped radiostation at a very special location. Exotic because of the beautiful Thai memorial building. But special also because of the fantastic scenery with forests, hills and water inviting to outdoor life, walks and fishing in the pristine wilds.

- This is an excellent location for holiday combined with amateur radio and tourism. The Indal river valley has a wonderful scenery and here is an exotic touch of Thailand, plus a well-equipped amateur radio station with a unique call sign good for DX as well as for rag chews. But be prepared for pile-ups, says Lars Aronsson, president for SI9AM.



The station is in a building next to King Chulalongkorn Road, a couple of hundred meters from the Thai buildings. At the station there is a bunk bed for two, a toilet, a refrigerator with freezer compartment and the possibility to warm one's food. There is a restaurant in the building and a number of rooms which are open in the summer months. Hotels, restaurants and other services are available the year around at a distance of 10 to 20 kilometers from Utanede. The nearest cities are Sundsvall and Östersund, 90 and 130 kilometers away. The station is available for visiting operators around the year for a small fee.

The station equipment consists of an FT 1000 MP with an ACOM 1000 amplifier. A 24-meter mast holds a tribander beam for 10/15/20 meters and a two-element for 40 meters. For other bands there are various wire antennas. A number of different software like TR, DX4WIN, HAM-Log, WIN-TEST and others is used for logging.

Facts about the visiting amateur radio station SI9AM: County Z302, Locator JP82iw.

QSL via SM3CVM, bureau or CBA. E-mail request for QSL via bureau is preferred.
Reservations and questions to info@si9am.se Information and photos at http://www.si9am.se

73's de SV3CVM

Getting started in casual contesting

By Dick Thompson - W0RAA

Having been licensed for many years (45 years in all), I have had an opportunity to partake in many of the various facets of amateur radio. I've been a net control station for the Ohio SSB Net when I was living in Ohio. I have participated in many disaster situations including the 1964 Palm Sunday Tornado that struck Indianapolis, IN and the surrounding communities. (I may be one year off on the year, but at my age, senility makes for a good excuse). I have handled phone patch traffic for troops stationed in far off places like Korea, Viet Nam, Europe, etc. I've demonstrated amateur radio in Special Events and participated in many Field Day operations. All have been very rewarding and in most cases, fun activities. But that's not the purpose of this article. Amateur radio offers something for everyone, and many, if not all, can be fun activities. In the past few years I have found my niche in ham radio: contesting. I am not a writer, so please be kind.

For many years I dabbled in contesting in one form or another. I rarely submitted a log in any of them and my participation consisted of mainly passing out contacts to the serious contenders. Then, after I retired I decided to get back on the air (after having been off the HF bands for almost 10 years). I live in a retirement community and management kind of frowned on antennas. So, one day I approached the then current manager, and told him I had been a ham for almost 40 years, and I wanted to get back on the air and had intentions of putting up a vertical antenna. (I was mainly on 2 meters and 440 during that 10-year period, so I was never completely off the air). His response was "No problem, as long as the neighbors don't complain about television interference, etc." So, I was on my way.

I decided to get back into doing some contesting and looked at my options for various modes. Of course SSB can be done by anyone, CW has always been a fun mode for me, but I had never experimented with digital modes like RTTY and PSK31, etc. I bought an Icom 757 and put up a Hustler 4-BTV vertical. It was great being back on HF again. I made many contacts that summer, and had only one complaint from a neighbor. I was getting into her computer speakers. A couple toroids solved that problem. No problems since. My antenna situation now consists of a Butternut HF-9V, a Hy-Gain TH5DX on a 40’ crankup tower and a short 80 meter dipole. My HF Transceiver is a Yaesu FT-950 and I also have a Ameritron AL-811 amplifier.

I decided to get into a CW contest, so I entered one of the SS (Sweep Stakes) contest. I can't recall which one but I had a ball. My score wasn't very high, but I had fun and that was my goal. So when the fall contest season started I decided to participate much more than I had in the past. I purchased WriteLog as a contest software package and it worked quite well as it supported many big and small contests. WriteLog is $35 and renewals are $30 (or in that area) if you decide that any updates that have been added since your last purchase will be necessary for your needs. All upgrades are free for one year with WL. So, any additional upgrades in that 12-month period are at no charge. The web site for WriteLog is www.writelog.com.

Also, another very capable program (and it is free) is N1MM Logger (www.n1mm.com). It is regularly updated and bugs that may happen as "bumps in the road" are usually fixed in a reasonable period of time once they are reported to the N1MM programming team. N1MM also supports a wide range of contests.

There are other software packages available, but I am not familiar with any of them, so I won't elaborate on them at this time. A Google search for "Contest software" will produce enough sites to keep you busy and off the streets for weeks, if not longer.

Of course, if you don't want to use a computer to log contacts that you make in a contest, there is always the pencil and paper method. Just be sure you can read your writing after the contest is over. Since most log submissions are made over the Internet, and the contest software packages have the ability to create Cabrillo files for submission, I would suggest that you use a computer. Another advantage is that most contests do not allow duplicate contacts on the same band, and the contest software programs will let you know if you have worked a station before. Keep in mind that contesting is not allowed, by gentleman's agreement on any of the WARC bands. The WARC Bands are 12 meters, 17 meters and 30 meters. There are CW, RTTY & Data frequencies on all the WARC Bands as well as Voice frequencies. The WARC Bands were named after the World Administrative Radio Conference (WARC) held in 1979. The new Channelized 60 meter band is never used in a contest. For those who are not interested in contesting and abhor the QRM created by contests, you can take refuge in the WARC bands and operate with no contesters to bother you.

The use of a computer in a contest simplifies the process and enhances the fun. My favorite form of contesting is using RTTY mode. I participate in most major RTTY contests, including the ARRL RTTY Roundup (I have taken First Place in the Rocky Mountain Division in 2007) as Multi/Single LP (Multi-Op/Single Transmitter, Low Power). Shel (KF0UR) and Jim (N0TUI) were co-operators in that contest. I operated in the Colorado QSO Party last July and took First Place in In-State CW Low Power and First Place in In-State Digital Mode Low Power. Both Single Operator.

CQ Magazine is a huge sponsor of contests. They have the CQWW CW, CQWW RTTY, CQWW SSB, CQWW SSB WPX, CQWW CW WPX, CQWW RTTY WPX, and the list goes on and on. The ARRL sponsors many contest on HF and VHF. The ARRL DX Contest is a big one. The RTTY Roundup is one of the most popular contests also. North American QSO Party contests are very popular and a good way to get your feet wet. A good site to check out, for what contests are happening at any given time, is http://www.hornucopia.com/contestcal/. Another is SM3CER's site, which is located at http://www.sk3bg.se/contest/index.htm. You may also want to take a look at the National Contest Journal web site located at http://www.ncjweb.com/index.php. And there are many more. All are very helpful. Also, there are many contesting forums on www.Yahoo.Groups.com. Do a search for Amateur Radio or Ham Radio. The National Journal magazine produced by the ARRL is a first class publication with a lot of great contesting information as well as hints and kinks type of articles. Don't forget to look at Amateur Radio Contesting FAQ's at http://www.qsl.net/zs1an/contesting_faq.html#warc.

You might ask questions like "What does SOAB mean?" What about "SOLP?" SOHP?" etc.

These are all abbreviations for contest entry categories:
o SOLP - Single Operator Low Power
o SOHP - Single Operator High Power
o SOAB - Single Operator all band
o SOSB - Single Operator Single Band, often includes the band, e.g. "SOSB/80" for a single band entry on 80m
o M/S - Multi/Single - Many operators but only a single transmitter
o M/2 - Multi/Two - Many operators with two transmitters
o M/M - Multi/Multi - Many operators with many transmitters

You don't need to have a "Super Station" setup to have fun in a contest. The simplest of rigs and antennas will allow you to participate. Nobody is going to refuse to contact you because your signal isn't 20 over S9. Every contact the big pistols and the small pistols make count for points, and who knows, you may be a "multiplier" contact for someone that may put them in First Place. So every contact counts, and many contesters listen for both the loud and the weak stations.

With the software that is available today and with the soundcards in the computers, getting into a RTTY or CW contest or any contest is a piece of cake. The Fn keys on your computer can be programmed to send your reports, in RTTY, CW as well as voice. I have actually been in contests and never touched the keyboard of my computer. All I had to do was point and click with the mouse. OK, OK, call it lazy, but it's still fun. Isn't technology great, as the old saying goes? You can set the software to key your transmitter, make the exchange and then log the contact, making you ready for the next one. And believe me, they can come fast and furious at times.

If you have never participated in a contest and would like to get started, I suggest that you start by entering a small contest like a state QSO party. There are also short Sprint Contests that usually last about 4 hours on a weekend afternoon or evening. The NAQP (North American QSO Party - CW, SSB & RTTY) are all great contests to enter. Another short contest, held on the first Monday of each month is the Spartan Sprint. Information is on the following web site: http://arsqrp.pbworks.com/Spartan-Sprints. Join the fun of a QRP contest.

I could go on and on and bring up a lot of other thoughts and ideas on contesting, but you really need to get into a contest to learn what it's all about and find out about all the fun you may be missing or could be having, whichever the case may be.

73,

Dick

The author can be reached at w0raa@arrl.net
or the address listed on http://www.qrz.com.

Discovering :
The W3FF Portable Dipole Antenna

This is the antenna I designed for my 'walking portable' station. It is a dipole constructed out of the plastic plumbing pipe CPVC. There are telescoping whips at the ends of each side of the dipole, and these whips are adjusted to bring the antenna into resonance on each of five HF Bands.....10, 12, 15, 17, and 20 Meters. The longest elements are on 12 and 10 Meters, where the dipole is actually a full half wave. On the lower three bands, coils are used to shorten the antenna. It takes just about a minute to make band changes. Operation on Six and Two Meters has been tried successfully too. It costs about $30 to build this multi-band, portable dipole.

Note that the coils are not tapped. They are taken out of the circuit entirely on 10 and 12 Meters. I use one coil for 15 and 17 Meters, and a separate coil for 20 Meters. Details on the 2 and 6 Meter operation may be found later in this text.

Parts List

Here are the parts to make the dipole:

CPVC pipe is a cream-colored plastic pipe. Buy a 10' section of it. Get the 1/2 inch ID size. It will be about 5/8 inch OUTSIDE DIAMETER. CPVC pipe is found at Ace Hardware stores and many other home improvement outlets in the USA.

You will need 6 CPVC couplers. These are cream-colored also, and are straight. Be sure to get the size that fits the above pipe.

One PVC T in the half inch size. This is a slip-slip-thread. The thread is on the bottom of the T. NOTE: This is the only piece of PVC used in this project.

While at the hardware store, buy some electrician's tape. You will need a roll of black and a roll of red tape. The red tape is just for marking one set of coils to differentiate them for tuning purposes, so you will need just a small roll.

Also, you will need some hardware to affix the wire to the whip. Here is what I use:

Two 8-32 by 1/4 inch stainless steel machine screws, two matching washers and two matching nuts.

The following parts are available at most Radio Shackstores:

Two Radio Shack replacement whips. The whips extend to 72 inches, and collapse to 13 inches.

RS Part # 270-1408B

Two packages of Radio Shack electrical connectors. I use the blue ones, and I take the wire, strip it, and fold it over before inserting in into the connector. That makes a better connection.

RS Part # 640-3313

One package of tiny ring connectors to use to connect the wire to the whip. These fit the 8-32 hardware. I don't have the RS Part # in front of me as I write this, but you will find them where you find the electrical connectors.

One spool of #20 Radio Shack insulated speaker wire. It comes in 75' spools, and that is more than enough to make several antennas.

RS Part # 278-1388

The only other part you might need is an rf bead to keep the rf off the outside of the coax on some bands. You can try making a loop of say a half dozen turns of coax right below the feed point of the dipole and see if that is OK for your installation. If that doesn't get the SWR low enough to satisfy your transceiver, you can order rf beads from a company like Palomar. I use only one or two beads on my own dipoles.

Buy ferrite beads. Use Mix 43. Buy a core size that fits the coax you prefer. Since we are dealing with a portable antenna here, I use RG-8X coax, and the Palomar # FB-56 fits the bill nicely.

Go to: www.Palomar-Engineers.com Their phone number is: (760) 747-3343.

Note that the beads are low in cost, just $1.65 each. However, there is a shipping charge on each order of $6, so you might want to order some additional beads to use for other projects, experimenting, or sharing with your friends.

Tools Needed

You will need a hacksaw, a small hammer, a screwdriver, a pair of needle-nosed pliers, a drill with a 1/8" bit, (perhaps, also, a 3/16" bit, if you want a little extra room when drilling the holes in the PVC), a crimping tool, and a tool for removing insulation from wire. You will need a measuring tape. Keep a pad and pencil handy to record measurements. A Marks-alot felt pen will be needed in the final tuning phase. You should buy or borrow an antenna analyzer if you don't own one.

Here's how to build the antenna:

Cut two pieces of CPVC, each 22" long.

Drill a 1/8" hole about 3/4 of an inch in from each end of the CPVC pieces. Don't drill the whole way through. Angle the drill slightly toward the long end, so that you can slide a wire into the piece of pipe. Drill the holes on the same side of the pipe.

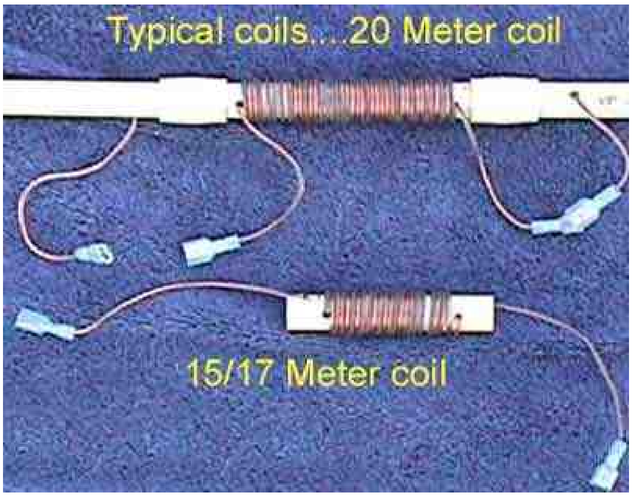
If you leave the speaker wire in its pair form before you cut it, you will be sure to use the same amount of wire on each coil. Cut 28" of wire from the spool, and split it into two28" pieces. Put one end of one of the wires into the hole you just drilled in the CPVC. Gently push the wire until you see it come out the other side of the pipe. Take a pair of needle-nosed pliers and work the protruding end into the hole at the end of the CPVC. You will have about 3" of wire on each side of the pipe when you are finished.

Do the same for the second 22" CPVC pipe piece.

Crimp one of the end electrical connectors, a female connector, on one side of each piece of the section you just finished. Put a male electrical connector on the other side on each section. You are finished with the 'arms' of the dipole.

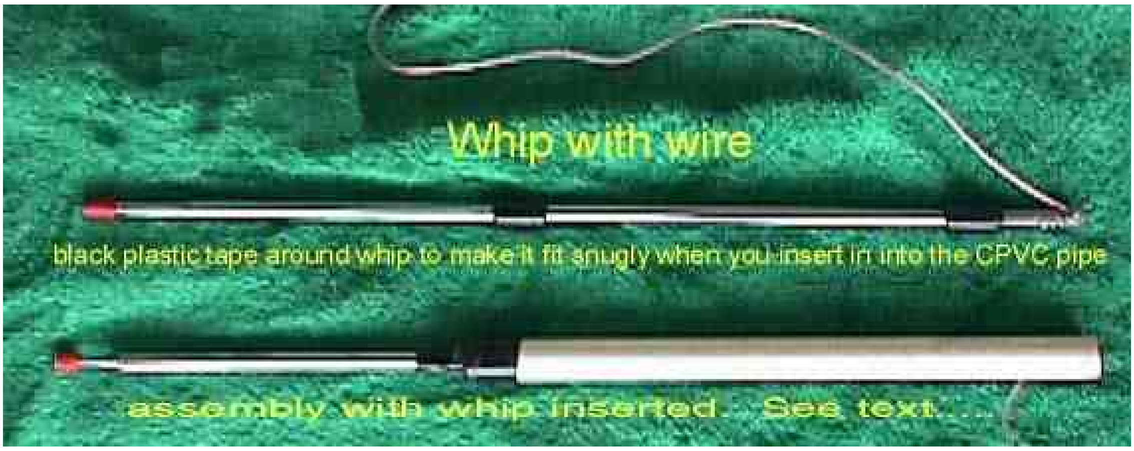
Now let's construct the 15 and 17 Meter coils. You get two bands with one set of two coils. Cut a 3 1/4" section of CPVC with the hacksaw. This is the form for the coil. Drill a 1/8" hole all the way through the section, about 3/4 of an inch in from each end. Cut a piece of wire 64" long and poke about three inches through one of the holes you just drilled. Start wrapping the wire around and around the CPVC section until you have approximately 22 turns on the coil. Push the tag end through the hole you drilled earlier, and tape the whole coil tightly with plastic tape. Cut the tag end so that you have about 3"of wire coming out of the hole in the pipe. Put a female electrical connector on the one wire, and a male electrical connector on the other protruding wire.

The 20 Meter coil is prepared exactly the same way, but you start with a coil form of CPVC of about 5 1/4", and you use 8'4" of wire. Wrap 41 turns on this coil. For appearance sake, wrap the coils with black plastic tape. Then, on one 15/17 Mtr coil, put on a single wrap of RED plastic tape (to differentiate it from the other15/17 Meter coil). Do the same thing on one of the 20 Meter coils. This completes the construction of the coils. (SEE PHOTO)

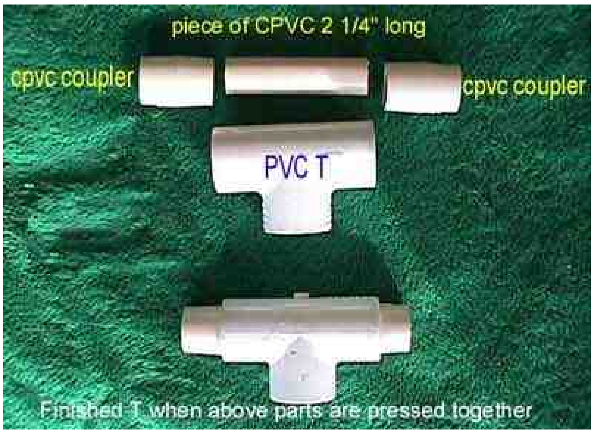


The telescoping whips are held by CPVC also. Cut two 9" pieces of pipe. Drill a 1/8" hole about an inch in from either end of each piece. (Not the whole way through the pipe.) Take a 15" piece of wire, and feed it into the hole you just drilled and out the other end of the pipe. Leave about 3" of wire sticking out of the hole you just put the wire through. Do this for each piece of pipe. Set the assembly aside.

Each Radio Shack telescoping whip has a tiny hole at the end of it. Enlarge that hole to accept a short machine screw (6/32 by 3/8" long) by drilling each whip with an appropriate bit, a bit about 1/8" in diameter. Before going further, take some black plastic tape, and wrap 17 inches of it around the whip at a point just about an inch up from the previous enlarged hole in the whip. This is simply to make the whip fit snugly into the piece of CPVC that you have prepared to hold the whip. Add more tape or take some away to make the fit snug. Cut another 17 inch piece of tape, and wrap it at a point 7 1/2" from the hole in the whip. This gives you the support to keep the whip centered in the CPVC. (SEE PHOTO)


Whip with wire
black plastic tape around whip to make it fit snugly when you insert in into the CPVC pipe
assembly with whip inserted... See text....

Take the previously made up assembly with the 15" of wire in the CPVC, and strip the insulation from the wire for about a half inch. The only reason this wire is not shorter than it is, is because it is much easier to put the wire through the pipe first, rather than by threading it in later. Connect the wire to the 6-32 machine screw you have put through one of the whips. Use a tiny lock washer and secure the wire. Now, pull on the 3" tag end of the wire you have coming out of the hole in the CPVC, and lead the whip into the piece of pipe until you see that the hole in the metal whip is adjacent to the hole in the CPVC. Cut off the wire so that you have just 3" protruding. Strip that wire end and put a female electrical connector on the end. The whip should be snug in the CPVC. At the telescoping end of the whip, where it comes out of the plastic pipe, tape the end of the pipe to the whip. This will keep it from slipping out of the pipe.

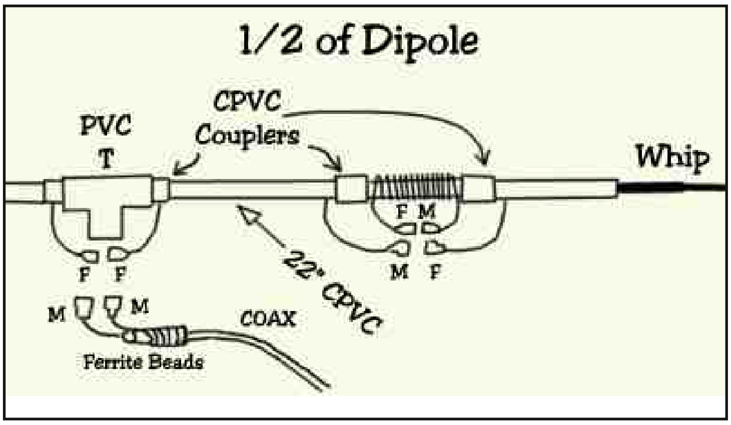

piece of CPVC 2 1/4" long
cpvc coupler
cpvc coupler
PVC T
Finished T when above parts are pressed together

The PVC T has slip/slip ends on it. The CPVC arms attach to this T. The sizes of the pipes are different, so an adaptor is made as follows: Cut a piece of CPVC 2 1/4 inches long. Place a CPVC adaptor onto that piece of pipe, and tap it in firmly with a small hammer. Insert the pipe end of that assembly into the PVC T. Take a second CPVC coupler and place it onto the pipe. Carefully tap that coupler into the PVC T, so that you have a final assembly that looks like this: (SEE PHOTO)

My thanks to Justin, K5JBB, who came up with this idea when he was making one of the antennas early in 2001.

Note that there are 5 electrical connectors on each side of the dipole. The electrical connectors are placed on the wires in a specific order. There is a female connector on one side of the dipole arm and a male electrical connector on the other side. The dipole arm with the female electrical connector is going to be placed next to the PVC T when the antenna is assembled. The other end of the dipole will have the male electrical connector on it.

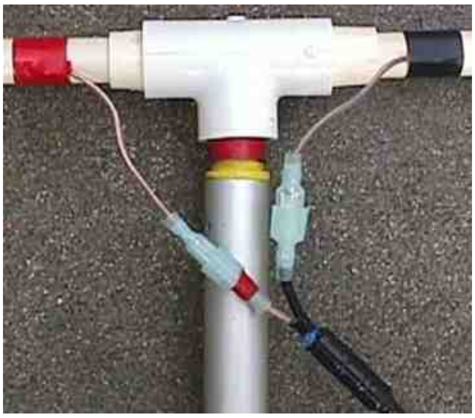
Place a CPVC coupler onto the 22" arm of the dipole. Put one of the two 15/17 Meter coils into that coupler, noting that the electrical connector you want to use on the 'arm' side is a male electrical connector.



Place a CPVC coupler onto the other side of the coil.Place the piece of CPVC that holds the telescoping whip into the CPVC coupler to the coil. Note that there is a male electrical connector on the coil. This attaches to the female electrical connector on the whip assembly. This completes the antenna assembly. (SEE PHOTO ... drawing)

Make up a piece of RG8Mini or RG58 or similar light-weight coax as follows: On the end that attaches to the dipole, make a pigtail by stripping back the covering to expose the shield of the coax. Pick out the strands of braid so that when the braid is twisting to a point, it will be small enough to fit into one of the blue male electrical connectors. Bare the inside white or clear wire of the coax. You might want to use some shrink-wrap tubing to strengthen and protect the pigtails. Put one male electrical connector on each of the coax pigtails.

To get the radiation off of the outside of the coax (providing a better match and a lot less RF on the outside shield), you can do either of two things: Coil the coax in a 4" diameter with about 7 turns and secure the turns with black plastic tape. OR... You can also use ferrite beads by fitting them over your coax and taping them on with black plastic tape. Your choice, but the beads are the best way to go. Pick a mix for the HF frequencies. Most of the antennas I have built have worked much better with the beads. This antenna was designed for use with my walking station, so I use 10'of RG-174 coax. It is tiny, and the ferrite bead information is as follows: Palomar Model #FB63-43. I use a half dozen beads on the coax, very near to the pigtails at the dipole feed point. If you use RG8Mini, the Palomar Model # is: FB-56-43. I use one or two of these (longer) beads. (SEE PHOTO)



Fit a PL-259 on the other end of the coax(with appropriate reducers, depending on the size of the coax you are using). This completes the construction phase of the project.

You will need a mast to support the antenna. I have been using the aluminum paint masts that one would use to roller-paint ceilings with. They come in varying sizes, and the one I use most is the model that collapses to 6' and extends to 12'. There is a male, threaded, plastic top on most of these tiny masts. Take a piece of black plastic tape, and wind it around the plastic top just one and a half times. Cut the tape off, and press it to the plastic top. You will find that when you prepare the mast in that manner, it will thread nicely directly onto the PVC T of the dipole, even though it is a 'cross-thread'. You are now ready to tune the antenna.

Tuning the Dipole

This procedure is easy if you have an antenna analyzer to help you do the work. It can be done with a transceiver in the CW position by checking the power output at a known level, but using an analyzer such as the MFJ model, is better.

Set up a testing range by using a tripod or similar method of holding up the mast and the antenna while you are making the adjustments.

Each band is tuned separately. Start with Ten Meters. BYPASS the coil entirely by simply leaving the coil out of the circuit. Pull out all of the sections on each side of the dipole's telescoping whips. Check the resonance of the antenna with the SWR analyzer. Push the ends of each side of the antenna in slightly until you see that the antenna is in resonance, that is, that you have an SWR in the neighborhood of 1.7 or less.

Note the number of sections it takes you to do this. Write this information down on a pad, and move onto the next band.

On 12 Meters, simply pull the whip ends out slightly, and check to see if the antenna is in resonance by doing so. No coils are used on 10 or 12 Meters.

If you find that your antenna is just not long enough to resonate on 12 Meters, simply take a 9" piece of #20 wire, install a female electrical connector on one end and a male electrical connector on the other end. Insert this jumper on the HOT or RED side of the dipole where the coil is bypassed. This lengthens the antenna just enough to make a perfect match on 12 Meters.

To load the antenna on 17 Meters, plug in the 15/17 Meter coil, and pull out the whips until they are in full extension. Check the resonance. You might be right on the 17 Meter band with very little adjustment. If the frequency shown on the antenna analyzer is too low, say in the 16 or 17 MHZ range, simply shorten the RED (hot) side by one section. Set the analyzer for 18.140 MHZ and watch as the SWR be longer than the other (it has to do with the groundside and the 'hot' side of the dipole as the coax is connected) to get a very low match. Note on your pad the number of sections out on the ground side and the number of sections out on the hot side. In the "Tuning Tips" section, see the list of how many sections it takes to resonate on various bands.

When you are satisfied that 17 Meters looks good, go to the 15 Meter position on the analyzer and start shortening the whip elements to go up in frequency to about 21.300 MHZ. When you get a dip, experiment as you did with the other bands. Just changing the whips slightly will change the resonance as you will see.

On 20 Meters, remove the 15/17 Meter coil, and insert the 20 Meter coil. Use the same tune-up procedure to get a big dip in the middle of the band, say about 14.200 MHZ.

Now, if you are satisfied that the measurements you made are in the ballpark on each band, check it out with your transceiver in the CW position. Just pick a frequency and check for power output. By lengthening and shortening the elements slightly, you will find settings where the power will maximize on each band. Mark those measurements ON the arms of the dipole, so that you will be able to change bands in just a few minutes. Use Marx-alot or a similar product to mark the CPVC arms.

Some Tuning Tips

Tune the antenna away from metallic objects, like cars, other antennas, towers, etc.
Use these APPROXIMATE settings for your antenna. If you have the proper # of turns on the coils, and if you used the correct Radio Shack speaker wire (#20), here are the settings I typically get: 10 Meters. RED or HOT side out 4.5 sections out, and BLACK..4 sections out. 12 Meters...both sides out all the way, with the 9" jumper inserted on the RED SIDE only. (no coils inserted on 10 and 12 Meters) On 15 Meters, pull out 2 sections plus 2 inches on the RED side, and 3 full sections out on the BLACK side. On 17 Meters, it's 3.5 sections out on the RED side, and 5 sections out on the BLACK side. (You should have the 15/17 Meter coils inserted for those bands) And, on 20 Meters, put the 20 Meter coils in, and pull out 3 sections plus 4" on the RED side, and 5 sections out on the BLACK side. These will vary with your antenna, but the settings are an excellent starting point.

BONUS ! Six Meters works well on all these I have tried. No coils. Push all sections in, and check the resonance. Pull the RED side out an inch or two at a time until you get the frequency you want.

BONUS ! Two Meters can be used, just by taking the 9" CPVC whip assemblies and putting them into the PVC T. Adjust the whips carefully to resonate on 146 Mhz. Remember to hold the antenna in a vertical position when working stations on FM. Thanks to Larry, K7COP, for investigating this aspect of dipole operation.
The antenna is not efficient on 40 or 80Meters. Email me if you want to try 40 Meters, and I will send you the info by return email.

FINALLY....
If this seems too complicated or confusing, simply email me and I will help you with the construction or the tuning. It takes me about an hour to construct a complete antenna. Several builders say it takes them 2 to 3 hours to complete the project. It takes me 20 minutes to tune one, and it should take you less than an hour.

Have fun with it, and let me know your suggestions for improving it!

73's ! Budd W3FF
Websites :
http://www.qsl.net/w3ff/index.htm
http://www.buddipole.com/

THE DX NEWS

From the Web (tnx opdx, 425 dx news, arrl...)

5B, CYPRUS

Terence, G4MKP, will be active as 5B/G4MKP from Tsada village near Pafos between August 14-25th. Activity will be mainly CW on 80-10 meters. QSL via M0URX.

7P, LESOTHO

Just a reminder that a group of operators is active until August 13th. They plan to have two stations active at all times with a third station to possibly be on for PSK and RTTY. Activity will be on all bands, but with a special effort on 160/80 meters. Operators are: Pista/HA5AO (7P8AO), Frosty/K5LBU (7P8CF), Laurent/ W0MM (7P8MM), John/9M6XRO (7P8OK) and Ben/DJ0YI (7P8YI). QSL 7P8OK via M0URX, others via their home callsigns. For more details, please visit the Texas DX Society's Web site at: http://www.tdxs.net

8Q, MALDIVES

Andrew, G7COD, will once again be active as 8Q7AK from Embudu Village, Embudu Island (AS-013, WLOTA L-3911), between October 12-25th. Activity will be on 80-12 meters including 30/17/12m using CW and SSB. Operating schedule (everyday) is as follows: 0730-0830z, 0900- 1030z, 1300-1500z and 1730-1800z. Suggested frequencies are:
CW - 3503, 7003, 10103, 14003, 18073, 21003 and 24893 kHz
SSB - 3795, 7063, 14147, 18133, 21253 and 24953 kHz
QSL via his home callsign, direct or by the bureau. Look for complete details at QRZ.com under 8Q7AK.

C3, ANDORRA

Last week we reported that Vini, IK2CIO, would be active as C31/IK2CIO between August 6-12th. We have been informed by several sources that "the Andorran Radioamateurs Union (URA) reminds that the local administration has not implemented the CEPT Recommendation T/R 61-01; therefore, any C3/homecall activity should be regarded as illegal." An up-to-date list of licensed amateurs can be found at: http://www.ura.ad

DP3, GERMANY (Special Event)

Members of the Waldkirchen Radio Club will activate special event station DP3SSKW on CW and SSB through December 31st. Activity is to celebrate the 3rd Shito-ryu Shukokai Karate 2009 Worldcup being held in Waldkirchen. QSL via the Bureau; direct QSLs only via DK7FK. Skeds for 40 and 80 meters are possible via E-mail to DK7FK:
b.barth@pension-monika.de

9G, GHANA (Update/Change)

Silvano/I2YSB informs that there has been an update to their activity in Ghana between November 13-27th. Their activity will also include an IOTA trip to Abokwa Island (AF-084). They will use two different callsigns for their activities. Operations on the mainland will use the callsign 9G5TT, while operations on AF-084 will use 9G5XX. Activity will be on all HF bands (160-10 meters) and modes. Silvano states that they do not have a licence for 60 meters and 6 meters. On AF-84 there will be one station on 20 meters only. The time of the operation on the island will be on a day to day basis and will depend on the sea condition and weather forecast. QSL via I2YSB, direct only. More information can be found at: http://www.i2ysb.com

DX-CALENDAR

By SM3CVM

The calendar is available at http://www.sk3bg.se/

- 1/8 PHILIPPINES; DU9/PA3GZU OC-130 from Mindanao Island (WLOTA 2803) by PA3GZU. Activity will be holiday style on the HF bands with low power. QSL via his home callsign, the Bureau is preferred.

- 1/8 UNITED STATES of AMERICA; N2OB NA-111
from Long Beach Island by members of the Old Barney ARC. Expect main activity on 20 and 40 metres SSB with two stations. QSL via N2OB.

- 3/8 CANADA; K9AJ/VYØ and KD6WW/VYØ NA-185
from Thomson Island from the local evening on 31 July. They will have two stations and will operate CW and SSB around the usual IOTA frequencies. QSL via home calls. The NA-185 IOTA group is offshore Rankin Inlet, Nunavut, on the western shore of Hudson Bay and was activated only once by NU2L/VE8 back in 1993.

- 7/8 ASCENSION I.; ZD8Z AF-003
by N6TJ. Activity will be on all bands CW/SSB. QSL via his new manager AI4U, direct or by the Bureau.

- 10/8 CAYMAN IS.; ZF2GC NA-016
from the Grand Cayman Island by W9CGI. Activity will be mainly on 17 and 12 meters using PSK31 and SSB. He will use a vertical antenna with under 50 watts. QSL via his home callsign, eQSL preferred; direct w/SASE or by the Bureau.

- 11/8 SWAZILAND; 3DAØ
by 3DAØDJ (GI4FUM/EI4DJ), 3DAØTB (G4LDL), 3DAØMH (GM3TAL), 3DAØVA (M0VAA), 3DAØMM (NC4MM) and 3DAØEL (UT5EL). They plan to put up a scout station at the international Scout Camp near Manzini which will be active as 3DAØSS in the future. They will use the antennas (for 160m-10m) which are already at the Hawane Resort operating two stations around the clock. QSL cards should be sent to the operator's homecall. The DXpedition homepage can be found at: http://www.gi4fum.co.uk/

- 12/8 BELIZE; V31NP NA-073
from Ambergris Cay by LA5OPA. Activity will be mostly on 20 meters SSB and PSK31. He will also operate on the other bands, if
propagation is open to Europe. Per will be using 100 watts with a
Buddipole antenna system. QSL via LA5OPA, by the Bureau or direct.

- 13/8 LESOTHO; 7P8AO, 7P8CF, 7P8MM, 7P8OK and 7P8YI
by HA5AO (7P8AO), K5LBU (7P8CF), WØMM (7P8MM), 9M6XRO (7P8OK) and DJØYI (7P8YI). They will have two stations QRV all the time, and a third station might be on for PSK and RTTY. Activity will be on all bands, with a serious effort on 160 and 80 metres. QSL 7P8OK via MØURX, others via home calls. The web page for the expedition can be found on the Texas DX Society's site http://www.tdxs.net/

- 31/8 HONG KONG; VR2/F4BKV AS-006
mainly on PSK31 with some SSB during good propagation openings. His web site is at http://www.f4bkv.net/

- ca 2/10 CHILE; CE73RG
The Radio Club Rancagua (CE4RG) was founded on July 22, 1936, and the 73rd anniversary will be celebrated with the special event station. Operation will take place in CW, SSB and PSK on 80/40/20/17/15/12/10m. QSL via CE4WJK.

- 30/9 CROZET I.; FT5WO AF-008
by F4DYW says he will be working at Alfred Faure Base on Ile de la Possesson. He plans to operate on 20, 15 and 40 metres SSB during his spare time, using 100 watts and dipoles. QSL via home call, direct or bureau. Look for updates on http://f4dyw.free.fr/index.php?langue=fr&contenu=ft5wo.html

- 31/10 JAPAN; 8J6SL AS-077
from the Kumamoto Museum to celebrate the 100th anniversary of Hisatsu (Railroad) Line (Steam Locomotive) on the Island of Honshu (JIIA AS-077-001). Activity will be on all bands and modes. Possibly 5 stations will be on the air. QSL via the JARL Bureau.

- 1/11 ANTARCTICA; VKØBP AN-016
is currently working at Antarctic Davis Base Station, Gridsquare MC81xk. His activity is limited due to his workload, but he is expected to be on all HF bands. He seems to like 20 meters between 1500-1800z. Operations have been on SSB and PSK31, but he plans to operate on other modes later on during his stay at the Davis Station. QSL via VK2CA. PLEASE NOTE: There is also a possibility of activating other field huts in the area, and he will sign as VK0BP/P. Look for more details on his Web page at http://www.vk0bp.org/

- ca 16/11   LEBANON; OD/W5YFN
has received approval from the local authorities while in Lebanon, for one year starting on 16 November.

- 31/12 HONG KONG; VR2009EAG
special event to promote the Hong Kong 2009 East Asia Games. Operations will be primarily on the HF bands from 40-10 meters
and VHF on 6 meters. The modes used will be primarily SSB, RTTY, PSK31 and SSTV. QSL Manager VR2XMT: Charlie Ho, PO Box 900, Fanling Post Office, Hong Kong.

- 2009 WEST MALAYSIA; 9M2TI
by EA4ATI to work in Kuala Lumpur for the whole year 2009. He will work with 400 watts and a vertical in CW and SSB on 40m/20m/15m/10m. He also plans to take part in all major contests (if possible from stations better equipped). QSL via EA4ATI.

- 31/10 2010   CANADA; VA7PX NA-075
from Mayne Island. QSL via VE7AXU via bureau or direct.

- 2010 MARSHALL IS.; V73NS OC-028
from the Kwajalein atoll by WD8CRT, who will have to work here for two years starting on Jan 5, 2009. He will work mostly in CW on 160-6m. QSL via bureau or direct to Neil Schwanitz, PO Box 8341, APO, AP 96557, USA. His website is http://www.qsl.net/v73ns/

1/8 - 9/8 EGYPT; SU8LH
from Ras El-Bar Island and the first Egyptian Lighthouse Dxpedition. Activity will be on the HF bands, as well as 6 meters, CW and SSB modes. QSL via SU1SK. Look for updates to be posted at http://www.qsl.net/su1sk/Links.html

3/8 - 3/10 TIMOR-LESTE; 4W
by CT1GPQ. Activity will be on 40/30/20/17 meters SSB, RTTY and preferably CW. His station setup will be an Icom IC-706 MK2g, a dipole for 40 and 30 meters and square loops for 20 and 17 meters. QSL Manager is CT1GFK. Activity logs will be online (possibly daily) on: http://algarvedx.com/
This is "NOT A DXpedition"! CT1GPQ will be in Timor-Leste with a Medical Team and radio operations will take place only during his spare time.

8/8 - 12/8 JAPAN; JA6VDB/6 and JE6AQP/6 AS-040
from the islands of Nozaki and Ojika, in the Goto Islands group.
They plan to operate CW and SSB on 40-15 metres. QSL via home calls, direct or bureau.

9/8 - 14/8 OGASAWARA; JD1BLY and JD1BNF AS-031
from Chichijima Island by JI5RPT (JD1BLY) and JO1LVZ (JD1BNF). Activity will be on 160-6 meters using the satellites, CW, SSB, Digi modes and 2m WSJT EME. QSL via their home callsigns. Log searches will be available on the following Web sites:
JD1BLY: http://www.ji5rpt.com/jd1/
JD1BNF: http://www.hattsan.com/

11/8 - 30/8 AGALEGA & ST. BRANDON IS.; 3B7FQ AF-015
from St. Brandon Island by 3B8FQ. This may be his last visit to 3B7 for the next five years. It will be a working trip, with time shared for maintenance on the island's meteorological equipment. Operation will be CW and SSB on 40-10 metres. QSL via K5XK.

13/8 UNITED STATES of AMERICA; N3AQC
by WY3H, W3IRS and K3WWP will operate a special event station from the USS Requin (Submarine) which is dry docked in the Alleghney River in Pittsburgh, PA. Their operating times will be roughly between 10 a.m. to 2 p.m. (+/- a few minutes) EST (1400-1800z). A special QSL card will be sent to all contacts. Operation will be on 20 and 40 meters only in the CW portion of the bands.

14/8 - 23/8 PUERTO RICO; W4L NA-099
from the Arecibo Lighthouse (ARLHS PUR-001, TWLHD WLH KP4-001), Puerto Rico (NA-099, USI PR-006S, WLOTA 2802). This activity will include the International Lighthouse/Lightship Weekend (ILLW, August 15-16th). Look for them on the following frequencies: SSB - 7150, 14225, 18122 and 28350 kHz - SSTV - 14230 kHz
QSL direct to: CARG, PO Box 140031, Arecibo, PR 00614-0031.

14/8 - 25/8 CYPRUS; 5B/G4MKP
from Tsada village near Pafos. Activity will be mainly CW on 80- 10 meters. QSL via M0URX.

15/8 - 16/8 UNITED STATES of AMERICA; W2T
from the Tucker's Island lighthouse (USA-911) by The Old Barney ARC from 13 UTC through 21 UTC each day. Operation will be primarily on 40 and 20 metres SSB with two stations. QSL via N2OO.

17/8 - 23/8 NAURU; C21TI
by EA4ATI/9M2TI and other operators which was to take place between June 16-26th, was postponed, but is already booked/rescheduled.
Look for activity on all HF bands from 160-10 meters + 6 meters. Station will have power and a 7 element yagi. The suggested - Frequencies are:
CW - 1825.2, 3505, 7005, 10110, 14025, 18075, 21025, 24895 and 28025.
SSB - 1825.2, 3799, 7065, 14195, 18145, 21295, 24945 and 28495 kHz
6m - 50.115 MHz - QSL via EA4ATI. Look for possible updates on the Web page at http://c21ti.madrono.net/index.html

22/8 - 25/8 CANADA; VC1W NA-154
from Welsh Island by VE1VOX and VE1AOE. They plan to have two stations on the air and possibly more operators to join their operation as the date approaches. This is a remote island and weather may affect the actual dates. QSL Manager is VE3EXY.

24/8 - 29/8 MARSHALL IS.; V73NF and V7XX (or V73J) OC-029
from Majuro by JA2DSQ (V73NF) and JH2BNL (V7XX or V73J) will
be active from Majuro. QSL via their home callsigns.

30/8 - July 2011 FRENCH POLYNESIA; FO
by F5PHW. Since he is there for work, his on air activities will be limited, but he will try to operate as much as possible. If he lives in a house, Phil intends to be active on all HF bands from 80-10 meters mainly on CW and RTTY (possibly some PSK31) with very little SSB using only 100 watts. His antennas from the house QTH will be: 80-40m - Inverted V + HF6VX (GP), 30m - HF6VX, 20-10m - HF6VX + Spiderbeam (not sure). However, if he lives in an apartment the antenna may only be the HF6VX. QSL via F8BPN, by the Bureau or direct.

4/9 - 16/9 AUSTRAL I.; FO/G3BJ OC-050 and OC-152
from Rurutu and Tubuai by G3BJ and G4JKS on vacation. Operations will be mostly CW on 80-10 meters (no 17/12m). They will use a K3 transceiver and a Butternut HF6.

6/9 - 7/9 FIJI; 3D2 OC-016
Requested call is 3D2G. This pacific dxpedition/tour by PG5M will be an ultra light solo DXpedition and CW only. He will use an Elecraft K3, and a 2x20m doublet plus vertical antennas. QSL via PG5M, by the Bureau or direct. For direct requests, please enclose a minimum of 2 USDs for return postage. More details and updates will be available on http://www.dx.to/

8/9 - 14/9 W. KIRIBATI; T30G OC-017
from Tarawa Island by PG5M on Pacific dxpedition/tour. This will be an ultra light solo DXpedition and CW only. He will use an Elecraft K3, and a 2x20m doublet plus vertical antennas. QSL via PG5M, by the Bureau or direct. For direct requests, please enclose a minimum of 2 USDs for return postage. More details and updates will be available on http://www.dx.to/

8/9 - 17/9 ARUBA; P41USA
by W3BTX (P49T) and W3TEF (P4/W3TEF) will once again activate P41USA this year over the anniversary date of the USA attacks on September 11th, 2001. Look for them to be active on all bands. Activity will include the September VHF Contest. All QSLs go to W3TEF.

15/9 - 16/9 FIJI; 3D2
Requested call is 3D2G. This pacific dxpedition/tour by PG5M will be an ultra light solo DXpedition and CW only. He will use an Elecraft K3, and a 2x20m doublet plus vertical antennas. QSL via PG5M, by the Bureau or direct. For direct requests, please enclose a minimum of 2 USDs for return postage. More details and updates will be available on http://www.dx.to/

17/9 - 23/9 TUVALU; T2G OC-015
Pacific dxpedition/tour by PG5M. This will be an ultra light solo DXpedition and CW only. He will use an Elecraft K3, and a 2x20m doublet plus vertical antennas. QSL via PG5M, by the Bureau or direct. For direct requests, please enclose a minimum of 2 USDs for return postage. More details and updates will be available on http://www.dx.to/

18/9 - 25/9 NIUE; ZK2BJ OC-040
by G3BJ and G4JKS on vacation. Operations will be mostly CW on 80-10 meters (no 17/12m). They will use a K3 transceiver and a Butternut HF6.

18/9 - 30/9 CHATHAM Is.; ZL7/N7OU
by N7OU making a lightweight, solo Dxpedition. Activity will be on 80-10 meters, CW only, using 100w into a vertical. QSL via N7OU.

19/9 - 20/9 Scandinavian Activity Contest CW 1200 - 1200 UTC

22/9 - 21/10 MAYOTTE; TO7RJ AF-027
by DJ7RJ. He will be leaving the island on 25 October, so he will be active as FH/DJ7RJ during the last days. Expect CW and SSB on 160-10 metres and perhaps 6 metres. QSL via home call.

24/9 - 27/9 FIJI; 3D2
Requested call is 3D2G. This pacific dxpedition/tour by PG5M will be an ultra light solo DXpedition and CW only. This will be an ultra light solo DXpedition and CW only. He will use an Elecraft K3, and a 2x20m doublet plus vertical antennas. QSL via PG5M, by the Bureau or direct. For direct requests, please enclose a minimum of 2 USDs for return postage. More details and updates will be available on http://www.dx.to/

24/9 - 27/9 St. PIERRE & MIQUELON; FP/homecall NA-032
from Miquelon by MØTDG and G3ZAY. They will operate CW and SSB; low band operation will depend on equipment availability (and airline baggage limits). QSL via home calls. G3ZAY will also try to activate McNutt's Island (NA-126) on 29 September.

24/9 - 7/10 BONAIRE, CURACAO; PJ2/PA1FJ SA-006
from the Island of Curacao. QSL via his home callsign, direct, by the Bureau or eQSL.

26/9 - 27/9 Scandinavian Activity Contest SSB 1200 - 1200 UTC

27/9 - 15/10 DOMINICA; J79ZG
by DL7AFS and DJ7ZG. Activity will be on 80-6 meters on the usual DX frequencies, mainly on CW, SSB, RTTY and PSK, as well as 6 meters. They will look especially for JA stations. QSL via DL7AFS. Their Web page for this operation is http://www.qsl.net/dl7afs/Index_J7.html

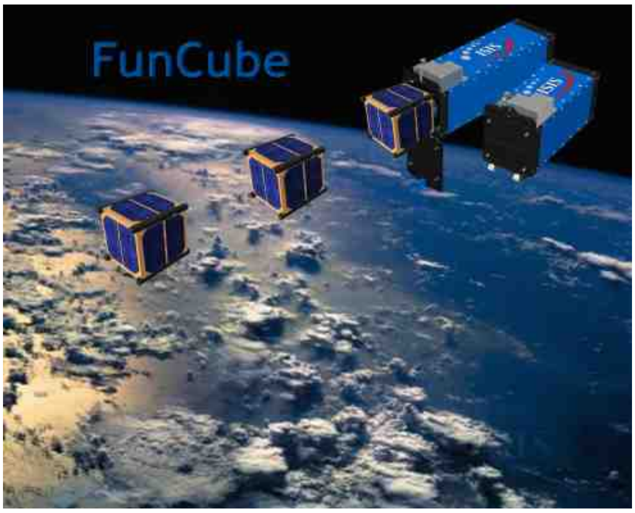
AMSAT-UK
FUNcube Press Notice
By Trevor M5AKA

AMSAT-UK has announced a new amateur satellite project - FUNcube. The project has received major initial funding from the Radio Communications Foundation (RCF) and is expected be developed in collaboration with ISIS-Innovative Solutions in Space BV.

FUNcube is an educational single cubesat project with the goal of enthusing and educating young people about radio, space, physics and electronics. It will support the educational Science, Technology, Engineering, Maths (STEM) initiatives and provide an additional resource for the GB4FUN Mobile Communications Centre.

The target audience consists of primary and secondary school pupils and FUNcube will feature a 145 MHz telemetry beacon that will provide a strong signal for the pupils to receive. It is planned to develop a simple receiver board that can be connected to the USB port of a laptop to display telemetry in an interesting way. The satellite will contain a materials science experiment, from which the school students can receive telemetry data which they can compare to the results they obtained from similar reference experiments in the classroom.

FUNcube is the first cubesat designed to benefit this group and is expected to be the first UK cubesat to reach space.



It is anticipated FUNcube will be launched into a Sun Synchronous Low Earth Orbit about 600-700km above the earth using one of the many launch opportunities that exist for Cubesat missions. In such an orbit the satellite passes over Europe approximately 3 times in the morning, and 3 in the evening, every day, perhaps allowing the morning passes to be used for educational purposes and the evening passes for Amateur Radio communications.

FUNcube will carry a UHF to VHF linear transponder that will have up to 1 watt and which can be used by Radio Amateurs worldwide for SSB and CW communications. Measuring just 10 * 10 * 10 cm, and with a mass of less than 1kg, it will be the smallest ever satellite to carry a linear transponder and the choice of frequencies will enable Radio Amateurs to use their existing VO-52 or DO-64 station.

A key feature of the satellite is the absence of an On-Board Computer. For reliability and maximum power efficiency, the design has been kept as straight-forward as possible with satellite control being achieved using simple commands.

AMSAT-UK has more than 350 individual members and is one of more than 20 such groups worldwide. AMSAT-UK teams have provided hardware for more than 10 satellites over the past 35+ years including SSETI Express in 2005.They are presently involved with the development of hardware and software for a number of satellite projects including the European Student Earth Orbiter (ESEO), P3E, SUITSAT2, the Columbus module on the ISS and also the GENSO Ground station network.

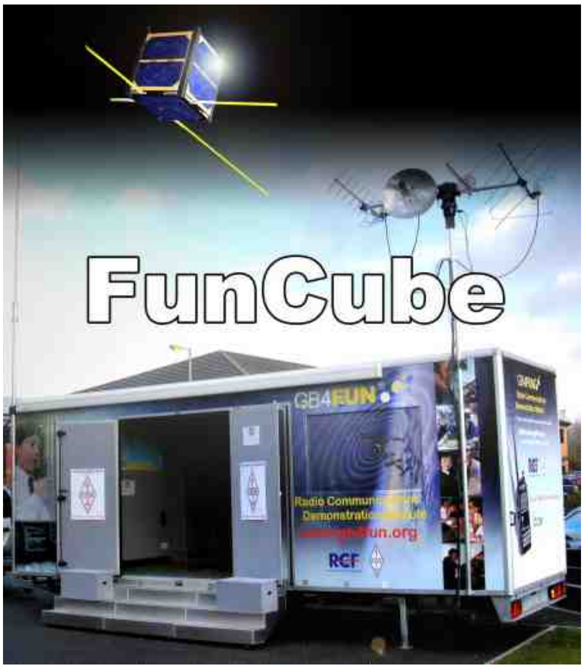
The Radio Communications Foundation is a Registered Charity (Number 1100694) set up in 2003 to fund efforts to bring the wonders of radio into the classrooms, universities and any other public place where hands on demonstration can influence understanding. The RCF funding for FUNcube is made possible through the generous bequest from a “silent key” who wanted the hobby that he loved brought to the attention of others. Any one wanting to make a bequest in their Will so that their name can live on in the hobby, or anyone simply wanting to make a donation, should click on the link below.

AMSAT-UK: http://www.uk.amsat.org/

Radio Communications Foundation: http://www.commsfoundation.org/

GB4FUN: http://www.gb4fun.org.uk/

FUNcube contact: Graham Shirville G3VZV Tel: +44 (0)7713 665725

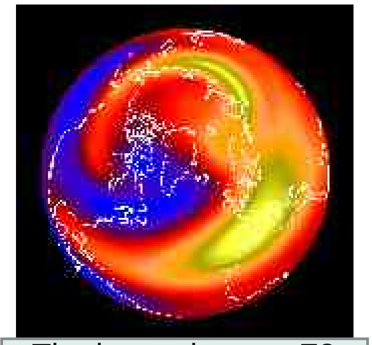


Ionospheric Perturbations
By ON4SKY

A disturbing star (I)

Since the pioneer works of Grote Reber, W9GFZ, in 1937, the ones of first broadcasters and from the Royal Air Force on first radars at the end of World War II, we all know that the main source of radioelectric perturbations is our sun. Its surface activity, especially chromospheric eruptions, Coronal Mass Ejections (CME) as well as its electromagnetic and particle radiations can potentially modify the ionosphere constitution and affect the geomagnetic field, disturbing their properties.

These intense radiations, heavy particles and other fast moving bubbles of gas move away from the sun at a few hundreds km/s prisonned in the solar electromagnetic field. After ten minutes or so for the fastest or a couple of days these radiations collide with the geomagnetosphere and induce indirectly an increasing of the level of ionization of the ionosphere. Sometimes the hit is very beneficial, sometimes much less. How work these mechanisms and how do they affect the ionospheric propagation ?


The ionosphere at F2 level (300 km aloft) during a severe geomagnetic storm

Sky wave propagation

Radio waves reaching the ionosphere layers are called sky waves. Only these ones allow long distance propagation (DX). To understand how they can be affected by the sun activity, we must first of all define characteristics of the ionosphere and its properties. Then we will focus on solar radiations, geomagnetic and ionospheric disturbances to close in dealing with solar an geomagnetic indices and their effects on critical frequencies like MUF, LUF and other FOT.
The ionosphere is constituted of several layers of ionized gas acting like as many reflecting surfaces more or less open or transparent to shortwaves depending on their density and the incident angle of the signal. From up to down, physicists defined three main "reflecting surfaces"
- F-layer, divided in F1 and F2 at daytime, it allows long distance propagation
- E-layer, accessible between 80 and 2m bands, it vanishes at night
- D-layer, its absorbs radio waves at daytime in the 160-40 m bands, degrades the MUF but does not intervene in DX.

Several additional effects increase also reflectivity or waves :
- Plasma clouds (sporadic-E)
- Gray line (along the line of the terminator)
- Azimuth (tilts, horizontal gradients, plasma irregularities, etc).

In addition, properties of the signal will influence its propagation:
- Distances involved between the transmitter and the receiver
- Ground properties (dielectric constant, conductivity, resistivity, etc)
- The antenna takeoff angle
- The working frequency vs. the critical frequency
- The ouput power
- The modulation mode (CW, SSB, etc)

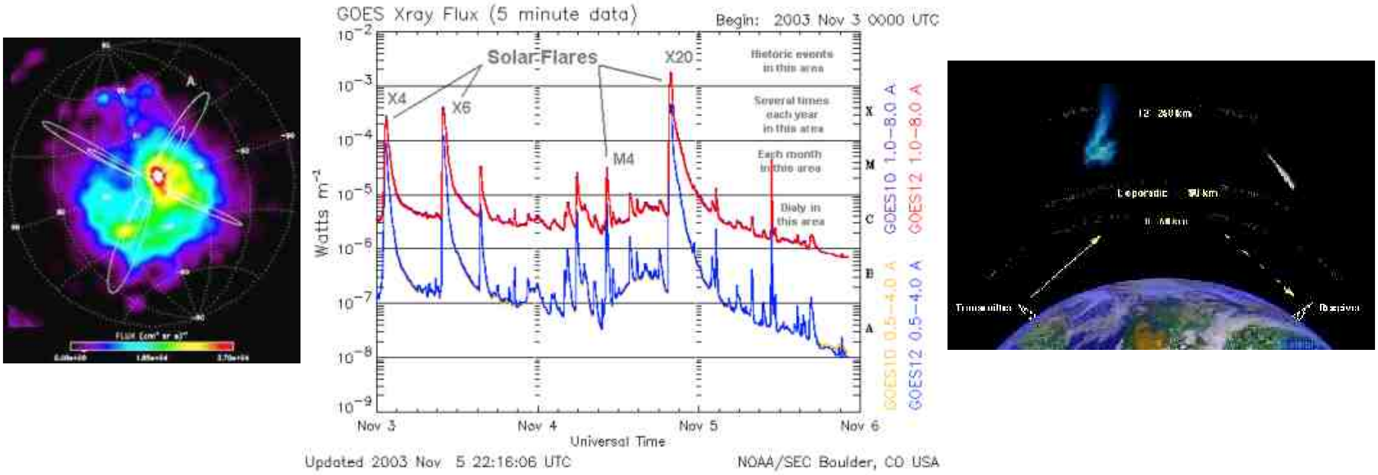
If we want to work remote stations, sky waves must be reflected one or more times to the ground by the ionospheric layers. Some have to be highly ionized to reflect sky waves while other must be transparent in order that sky waves could travel across to reach higher layers. But several factors that will be developed below and in the next pages affect their ionization level and their response to sky waves propagation :

- The amount of electromagnetic radiation and particle emissions (X-flare, EUV, UV, CME, solar wind, etc) emitted by the sun and their variation according the time of day and time of year

- The status of the geomagnetic field (Ap and Kp indices)

The relation between all these variables where hard to correlate, and until recently we even didn't know that CME had a so strong impact on the Earth ionosphere.

To well understand how develop ionospheric perturbations, we have to divide this study in two parts : first, determine what solar radiations are able to disturb either the ionosphere or the geomagnetosphere, then what components of the geomagnetosphere affects the radio propagation and in which way. At last from these data we could create a model of the ionosphere to establish forecasts.



At left, the Earth ionosphere seen from the Sun. At center of the image (red) neutral atoms emitted by the sun strike head on the earth near the equator and warm locally the ionosphere. At center, a historic X-ray burst of Class X28 classified as a "mega flare" recorded by a GOES satellite on November 4, 2003. Immediately after the Kp-index jumped to 7. A right these breaks in the ionosphere layers due to the presence of an aurora cause blackouts; if this event is fine for Aurora traffic it interrupts all HF communications during several hours. Documents NASA/MSFC, SEC/NOAA and T.Lombry.

Variations of the ionosphere

We have seen in the chapter dealing with the radio propagation that the ionosphere shows several layers, ranging from the D-layer at 90 km of altitude, and the F-layer located between 200 and 300 km of altitude. Its structure at any location is complex and depends mainly on the frequency, the amount of EUV light coming from the sun and the electron density (the rate of photoionization or recombination).

The fact that the ionosphere is created by the solar activity suggests that its variation will be similar to the one of the air temperature. And indeed, we observe that globally the electron density of the ionosphere is the greatest in summer, at noon and over the equator. But this picture is uncomplete. Due to the EUV radiation, that follows the 11-year solar cycle, the ionosphere varies much more than this.

We can define five main variations of the ionosphere :

Diurnal variation

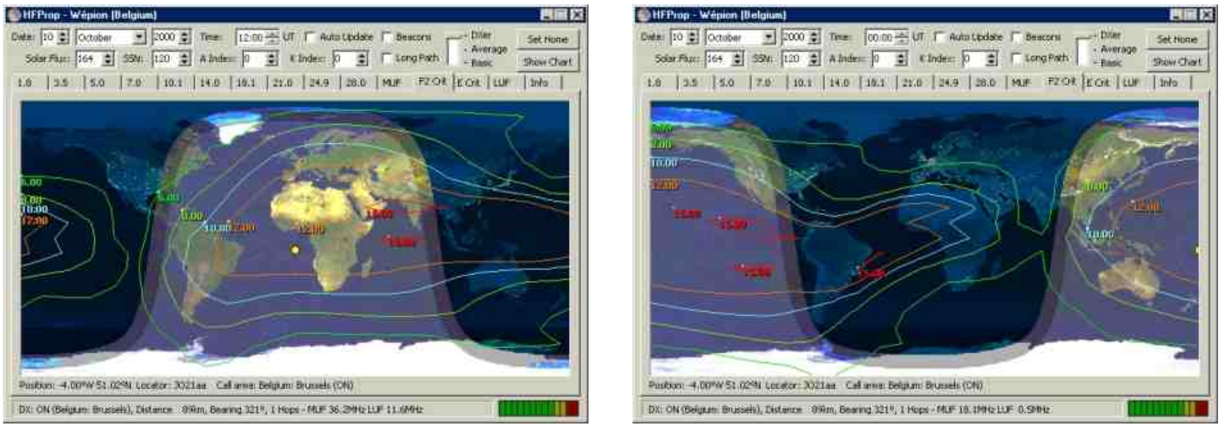
As its name suggests, these variations occur only throughout the day, following the apparent movement of the sun. They affect the D, E and F1 layers depending on the solar activity, and the solar zenith angle over the location.

The E-layer does not completely vanish at night and stays around a critical frequency foE = 0.6 MHz, but one often considers that its drops to zero and vanish at night as it as little consequence on radio propagation.

The F1-layer becomes a separate layer only at daytime and mainly during 3 to 4 hours before and after local noon. It disappears after sunset leaving the place to the F-layer located higher in altitude.

The F2-layer variation is more complex. Its critical frequency foF2 reaches is the lowest level (about 2-4 MHz), just before dawn, after the recombination process eliminated all electrons. The foF2 rises rapidly after sunrise due to the photoionization, amplifies during the day (to reach about 15 MHz near the equator), then decreasing at sunset but it never vanishes. Surviving the night, the F2-layer is the most important layer for HF communications.

Software review : SWIM, PropLab Pro, STD Aurora monitor



Date: 10 October 2000 Time: 12:00 UT
Solar Flux: 164 SSN: 120 A Index: 0 K Index: 0
Position: -4.00°W 51.02°N Locator: JO21aa Call area: Belgium: Brussels (ON)
DX: ON (Belgium: Brussels), Distance 89km, Bearing 321°, 1 Hops - MUF 36.2MHz LUF 11.6MHz

Date: 10 October 2000 Time: 00:00 UT
Solar Flux: 164 SSN: 120 A Index: 0 K Index: 0
Position: -4.00°W 51.02°N Locator: JO21aa Call area: Belgium: Brussels (ON)
DX: ON (Belgium: Brussels), Distance 89km, Bearing 321°, 1 Hops - MUF 18.1MHz LUF 0.5MHz

Iso-contour maps of the foF2 critical frequency at noon and midnight a day of October 2000 during the maximum of the solar cycle. Even if they stay very high due to the intense solar flux, globally foF2 drops up to 30% and MUF up to 50% at night; in the field, that means that the Frequency of Optimal Transmission, FOT, drops of several bands. For a circuit between Belgium and Congo at 100 W output, the S/N ratio at receive and FOT forecasts drops from 24.6 MHz at 1500 UTC to 13.4 MHz at 0300 UTC. Signals in Congo will the strongest from 1900 UTC and during the night on 20m with a S/N close to 20 dB (S2). Note that at that time the foF2 is also forecasted the highest, at 15 MHz over the equatorial zone. Maps created with HFProp.

Seasonal variations

The ionosphere varies also with seasons. In winter for example, the sun is always lower over the horizon than in summer (zenit angle higher in winter than in summer). This affects the critical frequencies of the D, E and F1-layers that is greater in summer than in winter. But this is the opposite for the foF2 at mid-latitudes that shows is greatest variation in winter. This difference is known as the "mid-latitude seasonal anomaly" and finds its root in seasonal changes in the relative concentrations of atoms and molecules.

Latitudinal variations

As with seasonal variations, the solar zenith angle affects also the ionosphere with latitude. Critical frequencies of each layer are not superposable and show considerable difference at low, mid and high-latitudes.

Variations from day to day

As the air temperature varies following the 24-hour cycle and from day to day, so do the critical frequencies of the ionosphere in reponse to the change of EUV radiation from the sun. Changes occuring sometimes at a very fast rate in the low atmosphere (within 5 minutes), usually one ignore most of these details and one works in terms of average behaviour of the ionosphere for the month, at each of the 24-hours of the day. These values are divised in three groupes : median (valid 50% of the month), lower decile (valid 10% of the month) and upper decile (valid 90% of the month). If the true critical frequency measured with a digisonde is much lower or higher than on the remaining days (respectively the 15, 27 or 3 other days on the month) we speak of "disturbed days". They are all associated to a deep change of the solar activity.

Variation with the solar activity

Considering only the day-to-day variations of the ionosphere, we cannot describe its behaviour with accuracy as many other indicators affect propagation conditions. Among them, name the solar flux characterized through its electromagnetic and particle emissions which is the main factor affecting the ionosphere. Its impact is obvious if we use a calibration graph showing the monthly median value of foF2 as a function of SSN. The foF2 double of frequency in winter when SSN jumps for example from 50 to 100.

Recall in this context that instead of using the SSN to estimate the status of the ionosphere, we can use the ionospheric index T which is a measure of the ionosphere itself. It is performed by a a group of stations in order to cancel out local variations and leaving only those common to all stations.

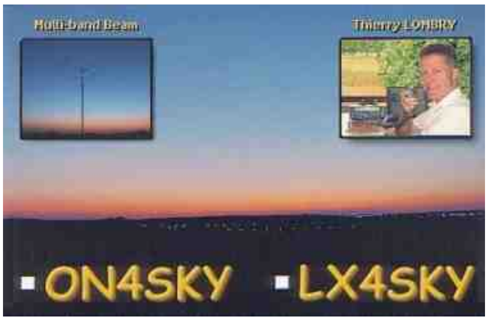
Plasma blasts in the ionosphere

Highlight a last phenomenon recently discovered in the ionosphere. We don't know what could be its effects yet, but it looks visually spectacular !

Beside gamma rays lightnings detected in the ionosphere, in 1994 the Geophysical Institute discovered an absolutely amazing phenomenon. Between 75 and 95 km of altitude, bright bluish plasma jets like the one displayed at left shoot up from thundery supercells top (lines of cumulo-nimbus). This event last only two or three milliseconds. Researchers think that these ionization blasts are linked to the ionospheric activity, but the mystery remains.

In all cases, we are at some orders of magnitude above the harmless HAARP experiments about which some people complain in regards with their potential effects in the atmosphere !...

Visit ON4SKY Luxorion Website :
www.astrosurf.com/luxorion/menu-qsl.htm



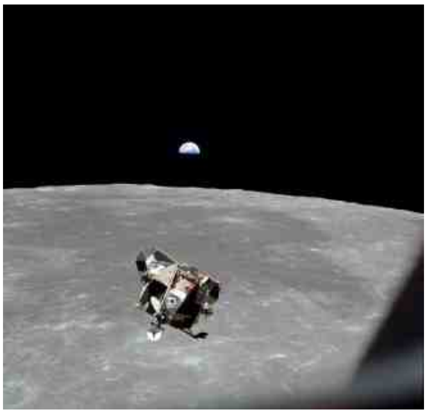
40 Years ago...
The first Men on the Moon !

The First Lunar Explorers

At 9:32 a.m. Eastern daylight time on July 16, 1969, Apollo 11 left Launch Complex 39A at Kennedy Space Center, bound for the moon. Four days later, at 4:18 p.m. EDT on July 20, Neil Armstrong skilfully set the lunar module Eagle down in the Sea of Tranquility and reported, "Houston, Tranquility Base here. The Eagle has landed."

For the next 10 minutes Armstrong and Aldrin were occupied with several post-landing procedures, reconfiguring switches and systems. Armstrong found time to report to Mission Control what he had been too busy to tell them during the landing: that he had manually flown the lunar module over the rockstrewn crater where the automatic landing system was taking it. Then he made his first quick-look science report:

We'll get to the details of what's around here, but it looks like a collection of just about every variety of shape, angularity, granularity, about every variety of rock you could find. . . . There doesn't appear to be too much of a general color at all. However, it looks as though some of the rocks and boulders, of which there are quite a few in the near area, it looks as though they're going to have some interesting colors to them. . .
After giving Houston as many clues as he could to the location of their module, he added some more description:
The area out the left-hand window is a relatively level plain cratered with a fairly large number of craters of the 5- to 50-foot variety, and some ridges - small, 20, 30 feet high, I would guess, and literally thousands of little 1- and 2-foot craters around the area. We see some angular blocks out several hundred feet in front of us that are probably 2 feet in size and have angular edges. There is a hill in view, just about on the ground track ahead of us. Difficult to estimate, but might be half a mile or a mile.



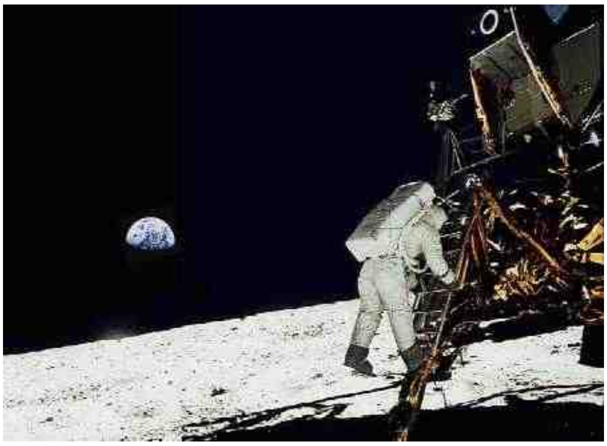
Armstrong and Aldrin then started preparing their spacecraft for takeoff, setting up critical systems to be ready in case something happened and they had to leave the lunar surface quickly. A short break in this activity gave Armstrong a chance to pass along more information about the landing site:

*The local surface is very comparable to that we observed from orbit at this sun angle, about 10 degrees sun angle, or that nature. It's pretty much without color. It's . . . a very white, chalky gray, as you look into the zero-phase line [directly toward the sun]; and it's considerably darker gray, more like . . . ashen gray as you look out 90 degrees to the sun. Some of the surface rocks in close here that have been fractured or disturbed by the rocket engine plume are coated with this light gray on the outside; but where they've been broken, they display a dark, very dark gray interior; and it looks like it could be country basal*t.

Setting up the spacecraft systems took another hour and a half to complete; then they were ready to get out and explore. The flight plan called for them to eat and then rest for four hours, but Aldrin called Mission Control to recommend starting their surface exploration in about three hours' time. Houston concurred. Although they had been awake almost 11 hours and had gone through some stressful moments during the landing, it seemed too much to expect the first men on the moon to take a nap before they made history.

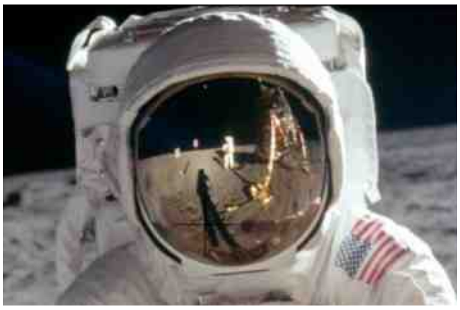
While Armstrong and Aldrin tended to their postlanding chores, Mike Collins, orbiting 60 nautical miles (112 kilometers) overhead in the command module Columbia, had little to do. Houston enlisted his aid in an attempt to locate Eagle, giving him the best map coordinates they could derive from the sketchy information available. With his navigational sextant Collins scanned several spots, without success; Columbia passed over the landing site too rapidly to allow him to search the area thoroughly and he never found the lunar module. Determination of its exact location had to wait for postmission analysis of Armstrong's descriptions of the area and examination of the spacecraft's landing trajectory.

Getting ready to leave the lunar module took longer than the crew had anticipated. It was after 9:30 p.m. in Houston, an hour and a half later than they had hoped, when they opened the hatch. Armstrong carefully worked his way out onto the "porch," then climbed down the ladder, pausing on the lowest rung to comment on the texture of the surface and the depth to which the footpads had penetrated. At 9:56 p.m. he stepped onto the moon's surface, proclaiming, "That's one small step for man, one giant leap for mankind" - inadvertently omitting an "a" before "man" and slightly changing the meaning he intended to convey.

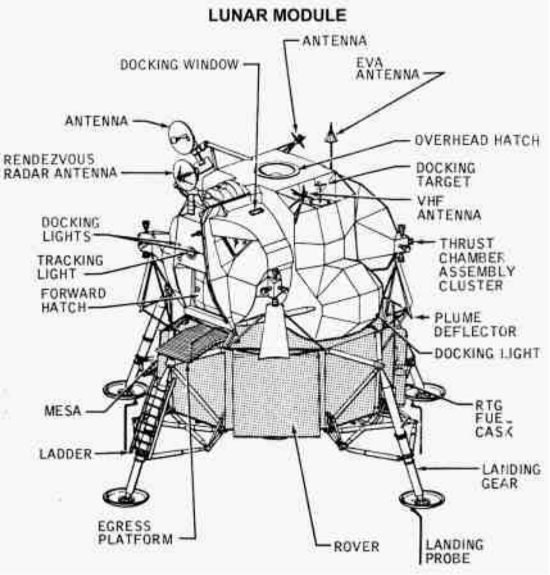


Armstrong made a cursory inspection of the lunar module and reported his reactions to the new environment. Aldrin then lowered a camera on the lunar equipment carrier - a clothesline and pulley arrangement that seemed out of place in the high-technology environment of Apollo - which Armstrong immediately began using. Mission Control reminded him to scoop up the contingency sample, which he did. "I'll try to get a rock in here. Just a couple." He noted that the collecting tool met resistance after penetrating a short distance into the surface material. He then stowed the sample in a bag that he tucked into a pocket of his suit. To the scientists on earth he remarked, "Be advised that a lot of the rock samples out here, the hard rock samples, have what appear to be vesicles in the surface. Also, I am looking at one now that appears to have some sort of phenocryst."

Aldrin then joined Armstrong on the surface, and they spent the next several minutes inspecting the landing craft and reporting on its condition, adjusting to the low lunar gravity and trying various ways of getting around on the surface. After a brief commemorative ceremony (reading the plaque attached to the lunar module) and a short conversation with President Richard Nixon, they began unloading and emplacing the scientific instruments and collecting samples. They supplemented earth's limited television view of their activities with descriptions of what they were seeing and doing. On a couple of occasions they acted like field geologists. Aldrin reported that he saw a rock that sparkled "like some kind of biotite," but he "would leave that to further analysis." After closely examining some rounded boulders near the spacecraft, Armstrong said they looked "like basalt, and they have probably two percent white minerals in them. . . . And the thing that I reported as vesicular before, I don't believe that any more. . . . they look like little impact craters where BB shot has hit the surface."



The geologists in Houston watching this surface activity on television were quite pleased with the astronauts' performance. At one point Armstrong disappeared from the field of view of the TV camera, causing some momentary anxiety at his apparent departure from the plan. It turned out that some unusual rocks had attracted his attention and he had gone off a few meters to collect them. That was exactly the kind of thing the geologists had hoped people on the moon would do. By the time the crew had taken two core samples, again experiencing difficulty in driving a sampling tool into the surface, and filled their sample return containers, Houston notified them that it was time to wind up their activity. Just before midnight CapCom Bruce McCandless told Aldrin to "head on up the ladder," and at 12:11 a.m. Houston time both men and their samples were back in the lunar module and the hatch was sealed. Humanity's first excursion on the surface of another celestial body had lasted 2 hours, 31 minutes, and 40 seconds.



Back inside the lunar module, Armstrong and Aldrin removed their lunar surface suits and portable life-support systems and used up their remaining film. Houston passed up some more instructions in preparation for liftoff and tentatively signed off for the night, but before long CapCom Owen Garriott, who had relieved McCandless, came on the line with some questions from the scientists about the nature of the surface and the problems in driving sampling tools into the surface. Three hours after they returned to the lunar module, the lunar explorers finally were able to turn in for a few hours of fitful sleep.

Next morning Armstrong, Aldrin, and Collins spent most of their time setting up Eagle and Columbia for liftoff and rendezvous. Before the lunar module left the moon, however, Armstrong gave Mission Control a detailed description of the landing approach path and landing area, in the hope of helping scientists locate their exact landing spot, and summarized the characteristics of the soil and rocks around the area.

Liftoff and rendezvous went smoothly. When the two spacecraft were locked together Collins cracked Columbia's oxygen supply valve and Aldrin opened the lunar module's vent valve, to create a gas flow into the LM when the hatches were opened - part of the procedure to minimize back-contamination-while Aldrin and Armstrong vacuumed the lunar dust from their suits as best they could. Their vacuum cleaner, a brush attached to the exhaust hose of the LM suit system, was not very powerful and the tenacious dust came off only with difficulty. There was not nearly as much loose dust in the lunar module as they had expected when they returned from the surface; evidently it stuck tightly to whatever it touched. They passed the rock boxes and other items over to Collins and then clambered into the command module, where they removed their suits and stowed them in the bags provided. After jettisoning the lunar module and straightening up the command module, the three astronauts settled in for an uneventful trip back to earth.

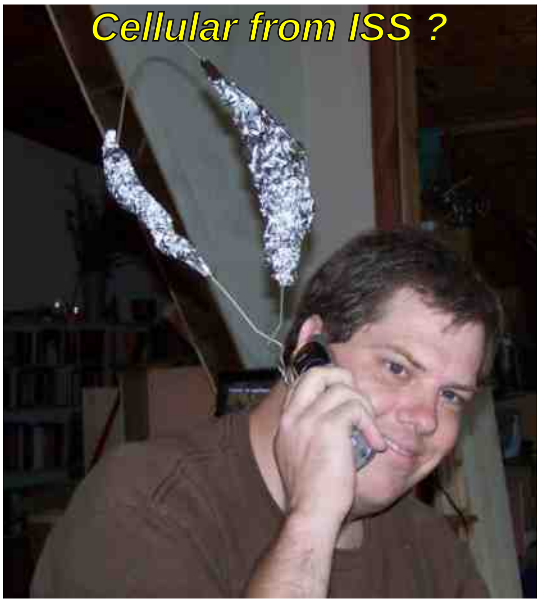
In the early morning hours of July 24, 8 days, 3 hours, 18 minutes, and 18 seconds after leaving Kennedy Space Center, Columbia plopped down into the Pacific Ocean about 200 nautical miles (370 kilometers) south of Johnston Island. Recovery crews from the U.S.S. Hornet arrived quickly and tossed the biological isolation garments into the spacecraft. After the cocooned astronauts emerged from the spacecraft the swimmers swabbed the hatch down with Betadine (an organic iodine solution); then astronauts and recovery personnel decontaminated each other's protective garments with sodium hypochlorite solution. The biological isolation garments were not uncomfortable in the recovery raft, but aboard the helicopter they began accumulating heat. Both Collins and Armstrong felt that they were approaching the limit of their tolerance by the time they reached the ship. An hour after splashdown they were inside the mobile quarantine facility. As soon as they had changed into clean flight suits, the astronauts went to the large window at the rear end of the mobile quarantine facility to accept the nation's congratulations from President Nixon, who had flown out to the Hornet to meet them.

Meanwhile, recovery crews brought Columbia on board and connected it to the astronauts' temporary home by means of a plastic tunnel. Through this, the film magazines and sample return containers were taken into the quarantine trailer, then passed out through a decontamination lock. Sample return container no. 2, holding the documented sample, was packed in a shipping container along with film magazines and tape recorders and flown to Johnston Island, where it was immediately loaded aboard a C-141 aircraft and dispatched to Ellington Air Force Base near MSC. Six and a half hours later the other sample return container was flown to Hickam Air Force Base, Hawaii, and thence to Houston.

TNX solarviews.com

COMIC'S HAM

Have some fun



Cellular from ISS ?

Indoor loop 40m antenna

It is really a QRP station ?

THE QSL OF THE MONTH

NEWS CONCERNING YOU E-MAGAZINE HAM-MAG

Dear YL, Dear OM.

At the beginning of july I've moved to a new QRA.
With my new Internet access, I can send only between 400 and 500 emails by day.
So to send the magazine to all the subscribers (5,500 english and 4,500 french) will take about 20 days !
I have decided to change the way of sending your issue.
I have created an "Yahoo Group" for ham-mag.
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Thanks a lot and best 73's

Vincent F5SLD
HAM-MAG

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The Tsunami Amplifier

The 4x4 slimtenna

Power Source

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SEPTEMBER 2009

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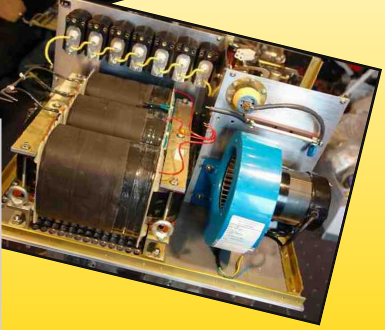

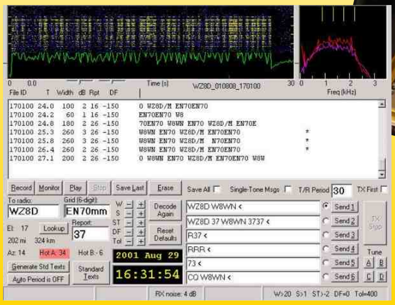

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170100 24.8  180  2 26 -150     70EN70 W8WN EN70 WZ8D/M EN70E
170100 25.3  260  3 26 -150     W8WN EN70 WZ8D/M EN70EN70          *
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170100 26.4  260  2 26 -150     W8WN EN70 WZ8D/M EN70EN70          *
170100 27.1  200  2 26 -150     0 W8WN EN70 WZ8D/M EN70EN70 W8W
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T/R Period: 30
To radio: WZ8D
Grid (6-digit): EN70mm
Report: 37
El: 17
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2001 Aug 29
16:31:54
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○ R37 <
○ RRR <
○ 73 <
○ CQ W8WN <
RX noise: 4 dB
W>20 S>1 ST>-2 DF=0 Tol=400

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The 4X4 Slimtenna

By Eli Kovo 4X4LH

A Reprint by Courtesy of antenneX Online Magazine issue Number: 119
http://www.antennex.com

Some of us prefer to spend a lot of money on towers, enormous in height and price, with lots of elements antennas and on top of it using the highest legal power. The rest of us, that have to deduct hard earned money from the family budget, have to make some delving in the intricacies of efficient transmitting, propagation problems and its many ingredients, if we want to still enjoy our hobby. It seems that today's Hi tech brought the hobby to a discouraging state - we don't build receivers and transmitters any more and on the operating side of it – an endless chasing of dx for a report and a QSL, which doesn't seem to be the highest goal of our hobby.

What is left to us is indeed, directing our efforts in better understanding the proper use of antennas, evaluating their radiation efficiency, getting to know the fouling behavior of the ionosphere, along with better differentiating between dBi, dBd, dB, etc. and even find out what Radiation resistance is.

After long years of thorough combing the literature, internet and other sources of information, along with building and using many different antennas, I came to the conclusion that one of the best ways to reach efficiently a distant station for a QSO of not less than 10-20 minutes, is the use of vertical antennas with no more than 150-200 watts.

In spite of some "great sages" saying that "a vertical antenna transmits equally bad to all directions", my present "antenna of the house" is a pile-up busting full wavelength wire Delta Loop, vertically polarized. I realized that the 1/4 wavelength ground plane antenna and the 5/8 wl antenna needing a good "mirror" underneath, are good choice on top of a car's metal roof, but will put you in jeopardy with your wife's garden and the lawn mower, if you try to bring them into your home station for HF.

I also realized that although a three or four elements Yagi beam concentrates its power in a narrow horizontal pattern, its vertical "take off " suffers from a high radiation angle of ~30°, loosing a lot of dB's in excessive number of hops to the ionosphere, while a good vertical monobander reaches the dx with less hops, with almost the same strength!

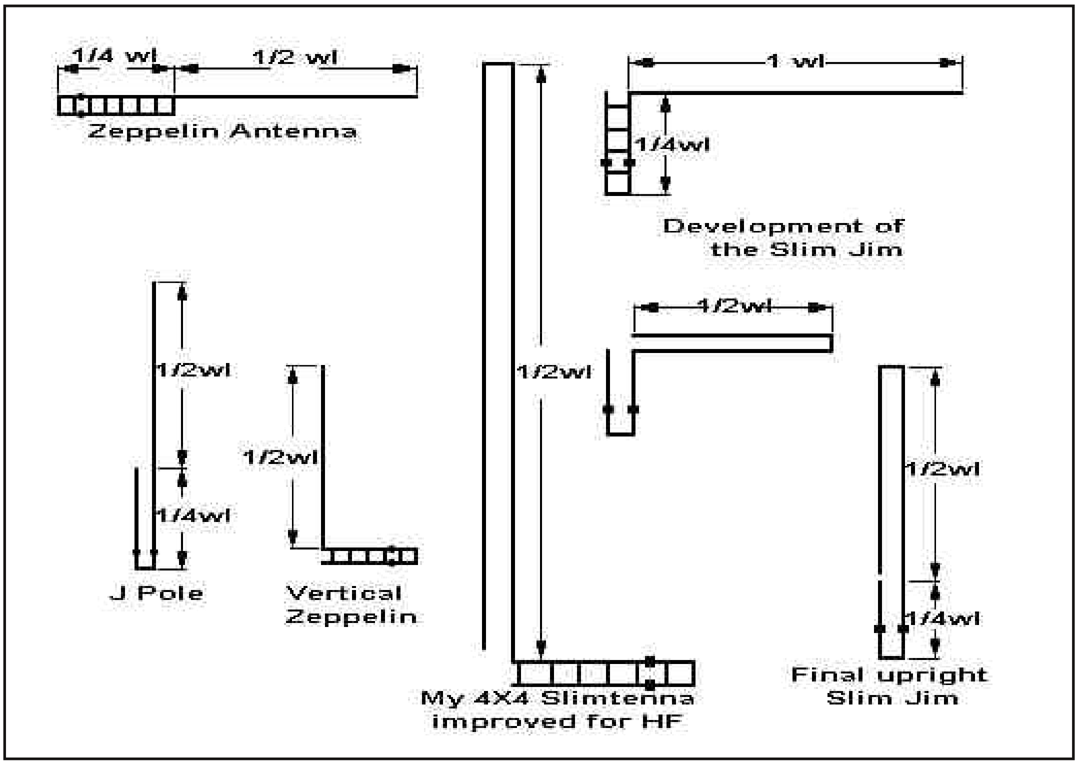
I further discovered that following the request of amateurs looking for a single knob (main's on/off) "no tuning" transceiver, made the manufacturers provide rather compact transceivers but without any way of antenna tuning and loading. Instead - promoting an external ATU to be added to the paraphernalia of the station with, of course, additional expenditure. It happens also because of the wish of amateurs and in many cases their necessity to use one single antenna for as many bands as possible no matter how bad the transmission is. Here lays one of the misunderstandings of many members of our fraternity. When feeding a dipole with its basic frequency it was built for, we get its basic well known clean pattern. Using the same dipole length on other frequencies with an ATU as a mediator, correcting wrong impedance, reactance and SWR for the tx to be happy, BUT:

1) The antenna will not provide the length the wave is looking for, according the rules of Physics.
2) The clean basic pattern of the dipole is distorted into many additional lobes on account of the main lobe.
3) The low take off angle desired for dx is elevated (to warm the clouds), causing more hops on its long way to the dx station.
4) The radiation efficiency becomes so low that out of our 150 watts only 15 poor watts get out on the air.
5) The ionosphere, acting as a mirror, absorbs some of our signal as a "payment for its services", swallowing 8-10dB (for each hop) of our miserable signal, arriving at the dx station with less then 1 watt.

A correctly transmitting antenna is the best "amplifier" I know. A 3 dB gain doubles the power of your signal and a 6 dB quadruples it. Your 150 watts are sent out as 300 watts! Add the equivalent gain of low take off angle transmission (less hops) and you are better off than a kilowatt!!

I brought this long preface for my hobby fellows, pointing out some of the pitfalls. If we get aware of them we will benefit by better understanding of the how's and why's of antennas and enhance our station performance. This will hopefully encourage us to build and use simple, cheap and efficient, low take off angle monoband verticals.

Here comes my modification of the Slim Jim antenna which I call "The 4X4 Slimtenna".



The esteemed Slim Jim antenna was invented by Fred Judd G2BCX on the basis of the J Pole antenna, which was based on the German Zepelin antenna. This one was an endfed dipole, fed by a 1/4 wavelength open wire ladder section, hanging out beneath the big airship. It was actually invented by an Austrian engineer in 1908 intended for use in balloons in a suspended mode. Niels Rudberg OZ8NJ found this astounding fact in an old textbook published quickly in the same year by Dr. J. Zenneck – Professor of Physics in Muenich (RadCom June 2006).

Pic1 The Zepp and J Pole, the development of the Slim Jim and its upgrade for HF-
"The 4X4 Slimtenna"

Both J Pole and the Slim Jim inventors kept its ¼ wavelength matching section in line with the ½ wavelength long antenna, e.g. a half wavelength plus another quarter wavelength. Beneath a balloon or a dirigible this was a fine and suitable arrangement as the antenna and the matching feeder were rolled out at lift off from a drum and rolled back when landing. It is certainly difficult for the ham to cope with these enormous lengths if he wants to use it as a vertical aerial on the HF bands. This is probably the reason why these fine antennas were confined mainly to VHF.

This type of feed can be in line with an endfed antenna or can be bent 90° to it. Both J Pole and Slim Jim can be put up vertically for HF - easier, if the feeding section lays near the ground or the roof. I will refrain discussing the J Pole as it doesn't offer more than an endfed halfwave dipole.

On the other hand, the Slim Jim is one of the very good antennas offering a good radiation efficiency - having:

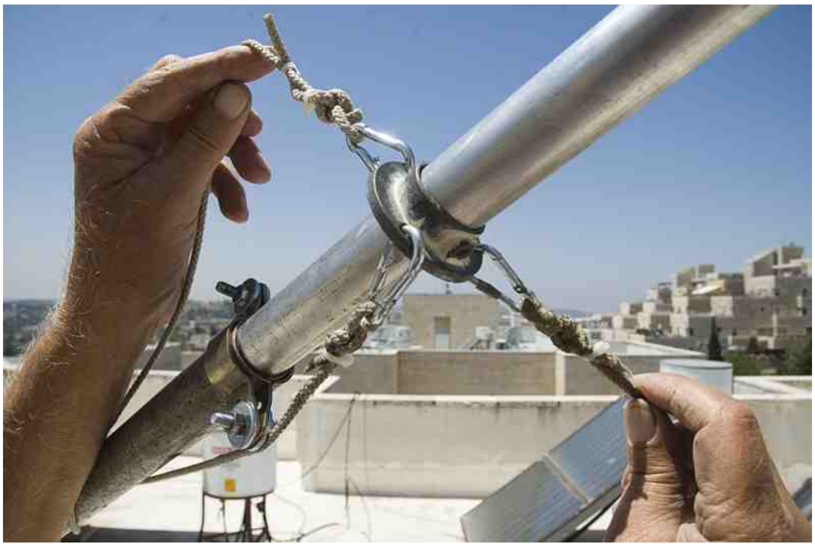
a) A driven element that combines the "efforts" of two halfwaves in phase, in a rather restricted space with about 3 dBd gain and an unbelievable 8° take off firing angle towards the horizon - almost parallel to ground!

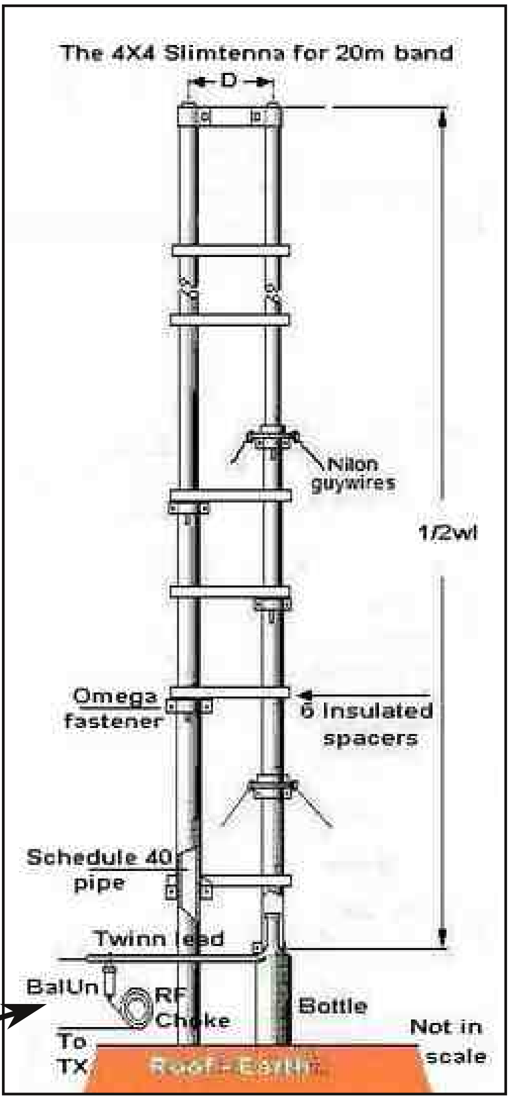
b) Its overall height is no more than half wavelength.

c) No need at all for (repulsive quantity of) radials to substitute a missing length for our wave to ride on (unlike the ¼ wavelength ground plane searching underneath for its "lost" other 1/4 length, lifting its lobe up to Heaven for help… A pitiful scene).

Although building verticals for HF is easiest for 10 meter band, we will plunge into building it for 20 meters band and find out it isn't out of the reach of the ham both financially and mechanically. (See pic. 2)

Pic 3: The omega clamps and a flange at 4X4LH's roof





Pic.2: An overall and detailed view of the components included in the 4X4 Slimtenna

The height of the whole thing is 10.5 meters. Each leg is made out of 2, 3 or 4 pieces of aluminum pipes fitting in diameter. Starting with a bottom size of ~1.5”, the upcoming pieces go into the lower one for at least 10 inches. If the pipes don’t fit snugly, use a piece of aluminum beer can as a shim. I carried a magnet to the grocery shop to find the aluminum ones – the others will rust quickly. The steak I ate was happy with the beer and the pipes were happier with the shims inserted.

At the upper end of each section cut a double slot to clamp the next pipe. Fastening is done by using 2 omega clamps in each place. I don’t rely on hose clamps to hold this weight and mechanical stress (See pic. 3).

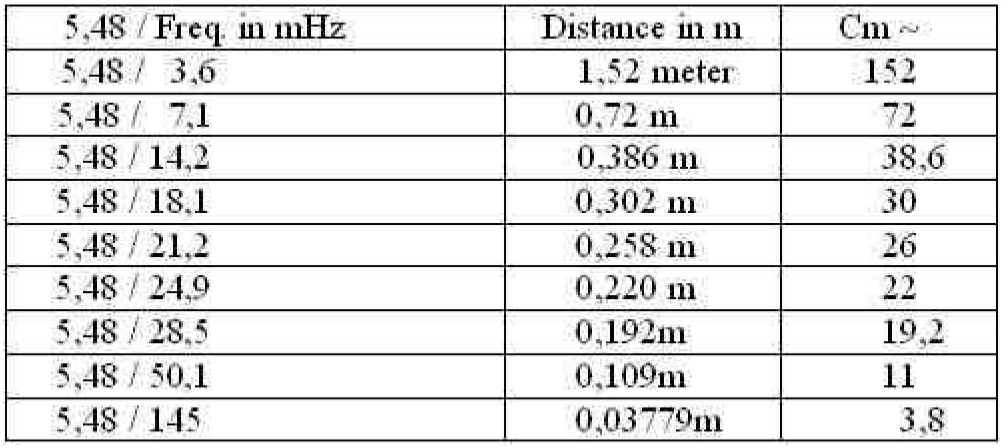
Use all the way the same size of stainless steel ¼”(6mm) screws, washers and nuts. It pays back with time! Also, when doing the works you will have to carry one single size of wrenches.

The main fed element rests on a bottle, which is a very good insulator. The other leg is a bit shorter e.g. minus the distance D, and may stay on a proper size and length of Schedule 40 PVC pipe which is also a good insulator.

Prepare 6 Plexiglas (or other) spacers. I leave their design purposely to your ingenuity, as long as their size is in accordance with the table of widths below, (pic.4) and as long as they keep the two elements parallel. Place them at even distances along the antenna. Remember that the upper pipes get thinner but D stays the same. I don’t go into details not wanting this article to look as if taken out of a cook book (hi).

Try to find in your plumber’s shop 2 strong aluminum or plastic flanges with 3 or 4 holes and insert them at ~1/3 and ~2/3 heights from the bottom for the nylon guy wires. These flanges are supported underneath by the same type of a couple of omega clamps without drilling any holes in the pipes. (see pic.3)

The uppermost ends of the two elements are tied together (electrically) by a 1/2” wide aluminum strip, embracing both pipes and fastened tightly with above suggested type of screws. Don’t forget to cap the pipe's ends against rain with anything convenient.



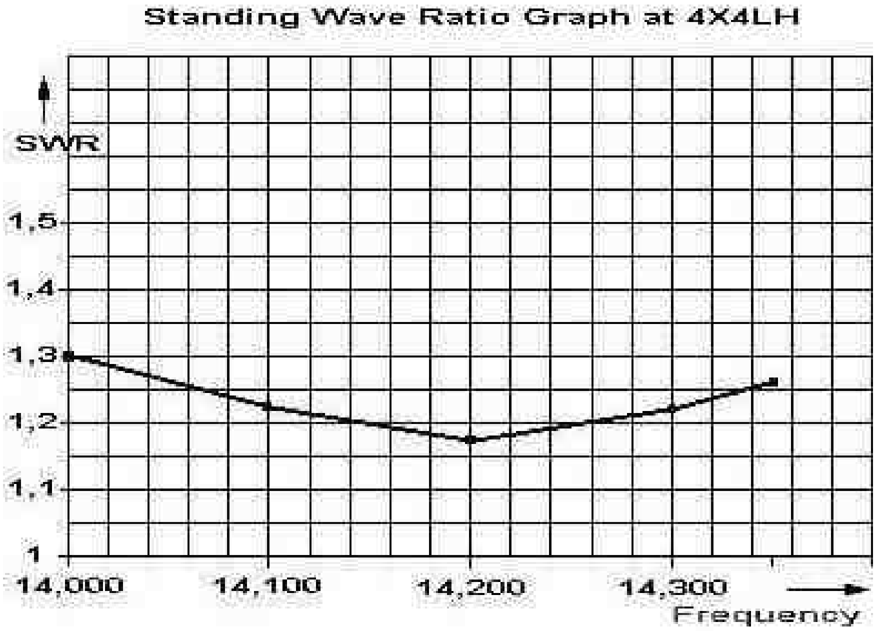
5,48 / Freq. in mHz	Distance in m	Cm ~
5,48 / 3,6	1,52 meter	152
5,48 / 7,1	0,72 m	72
5,48 / 14,2	0,386 m	38,6
5,48 / 18,1	0,302 m	30
5,48 / 21,2	0,258 m	26
5,48 / 24,9	0,220 m	22
5,48 / 28,5	0,192m	19,2
5,48 / 50,1	0,109m	11
5,48 / 145	0,03779m	3,8

Pic.4: A table for distance D between the two halfwaves in cm. and also for other bands

Use some help to lift the whole thing and tie it securely to all tie points you prepared in advance. I personally never tie more than one guywire to the same tie point, just to be on the safe side. If a tie point gets loose and out of its place, holding more than one guywire may cause the fall of the whole structure.

As with every good antenna, this one is also vulnerable to nearby objects like walls, metal structures, trees, etc. They shift the predesigned frequency, usually lowering it and distort the expected pattern, so try to be in the clear.

The right sequence for adjusting the antenna (any antenna) is to resonate it by achieving minimal SWR on the preferred frequency, first by taking care of its length, then with the feeding. Use your SWR meter while your TX is on AM and adjusted for minimum readable power output. By making a graph. like the one below, checking the SWR every 100kHz (See pic. 5), you will be able to decide whether the antenna is too long or too short. The adjustment is done usually on the shorter leg, where the gap was, but in some cases also on the main leg.



Pic.5: On a math textbook sheet, mark frequency and SWR coordinates

Feeding a high impedance vertical could be done by a coil and a tap for the coax, but such a coil has its own many requirements (Q, diameter, number of turns, rain cover etc.) and may radiate by itself. This is why an easier, preferred feeder of lossless open wires is used, where current in one wire is out of phase with the current on the other, ensuring no radiation from it. A ¼ wavelength section of 300Ω Twin lead solves nicely our problem. Its far end shorted, twisted and soldered. One conductor of the Twin lead connects to the bottom of the main element by a hose clamp, while the other wire is left not connected. Keep the Twin lead away of ground at the height of the bottle insulator. The necessary impedance of that specially designed for one single band ¼ wavelength matching section, is found out by a very simple formula for matching two (very) different impedances:

Zmatch = √ Zant x Ztx

The bottom end of the Slimtenna presents estimated impedance in the vicinity of ~1500Ω, which I could not actually measure. Adding it to our formula looks like this

= √ 1500 x 50 = √ 75000 = 273.86Ω

A good quality 300Ω Twin Lead will be near enough for that matching purpose of ours.
One more thing to be done is finding the real length of that ¼ wl section. We’ll have to take into account the slowdown speed of our wave, caused by the plastic insulation

covering the conductors of the Twin lead. Enter Velocity factor. For Twin lead it is about 0.73, while, for instance, for coax cable it goes down to 0,66. We'll have to multiply the ¼ wl of our matching section by that Velocity factor (0.73) which means actually shortening the way our wave has to travel. To do that we have to decide what our working frequency is – say 14,200 mHz.:

Wavelength in meters = 300 / FmHz
300 / 14,200 = 21,12 meters, but we need only the ¼ of it, so
21,12 / 4 = 5,28 meters, now times "Velocity factor"
5,28 x 0,73 = 3.85 meters of Twin lead

This is the length of the Twin lead to be used to feed our Slimtenna. Not very difficult.

Pierce the insulation of the Twin lead at a distance of ~40 inches from the cold end and connect two alligator clips attached to the feeding coax end. You will probably need to do some more piercing until you find the points of lowest SWR. As it is clear that Twin lead is after all a balanced component, attaching it to an unbalanced coax cable necessitates the use of a 1:1 BalUn, connected to the points you found, with minor moving back and forth for fine tuning. If you happen to have only a 4:1 BalUn, you can use it instead, by looking for the right connection points (~200Ω) further on along the Twin lead, closer to the antenna leg.

Last but not least – from the upper end of the coax cable make a coil of 8 turns (close wound) with a diameter of about 8", without cutting it. You can wrap it on a ~8"plastic coil form ("borrow" a cake form from your wife) or have it air wound. Fasten it in such a way that it looks like a coil and remains like that. This device will prevent the outer side of the coax braid from joining the gang, turning into an antenna by itself, while the inside stream of current is unobstructed. This phenomenon is called "Common mode currents", meaning - currents flow on the external side of the coax braid during transmission. In common mode language it is simply an RF choke preventing your joyful SSB gurgles from appearing on your "lovely" neighbors TV, Hi Fidelity, computer, wireless phone etc. etc.

Make one last check for the lowest SWR –1.2:1 is very acceptable and you can now solder the BalUn wires to the Twin lead and cover all vulnerable joints with hot glue, RTV etc.

This 4X4 Slimtenna, if adjusted properly and operated correctly as a monoband vertical antenna, will turn out to be your "pileup-buster of the house"– try it!

My best wishes for a good luck with this fine project – 73 de Eli 4X4LH

Reference:
Y21BK - Karl Rothamel "Antenenbuch" Telekosmos Verlag 1984 / W4RNL – L.B.Cebik
W7EL - Roy Lewallen / The ARRL Antenna Compendium / Radio Rivista dell ARI
RadCom RSGB Magazine / RSGB – Radio Communication Handbook 5th Edition 1976

Eli Kovo 4X4LH has his license since 1958. At last, officially, he could switch on his long awaiting homebuilt tx (2 807's modulated by 2 807's). Ever since he is active on the bands, striving for better gear and antennas. He was a Technical Supervisor in the Israeli Radio and after a scholarship at Thomson college in Scotland, he became one of the founders of Israeli Television in 1968, raising to the post of Head of the Outside Broadcasts Dept. Now retired but still searching for better antennas for his amateur station and building them if possible.

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Eli Kovo
5 Carmel str. - Jerusalem 90805 - ISRAEL

DB2TAM – Thorpe Abbotts Museum

The Chelmsford Amateur Radio Society (CARS) will be operating as GB2TAM from the Thorpe Abbotts 100th Bomb Group Memorial Museum, in Norfolk, on Saturday and Sunday 12/13th September.

Thorpe Abbotts was a Second World War air station, which was the home of the U.S.A.A.F 100th Bomb Group from 1943 to the end of the war in 1945. During that time, 753 aircrew made the supreme sacrifice and since then hundreds of veterans have returned to Thorpe Abbotts and continue to do so to this day. Although much of the air station has now gone, the control tower still stands and has been restored to its former glory by a group of dedicated volunteers over the last 25 years, most of who are still working for the museum.

GB2TAM has been organised to coincide with the weekend of the 100th Bomb Group reunion, which is held each year in Albuquerque, New Mexico. It is hoped that band conditions allowing, we will be able to make contact with the reunion and possibly speak to some of the dwindling number of veterans who will be attending.

The station will be operating on all HF bands using SSB as well as 2m FM and will be pleased to contact stations regardless of location. A GB2TAM QSL card will be available for all contacts which will show the control tower as it is today in a pristine restored condition.

100th Bomb Group
http://100thbg.com/
100th Bomb Group Thorpe Abbotts Museum
http://www.100bgmus.org.uk/

100th Bomb Group Memorial Museum
http://www.aeroflight.co.uk/mus/uk/1-b/100thmus.htm

The Chelmsford Amateur Radio Society run courses for the Foundation, Intermediate and Advanced exams To find out more contact the CARS training co-ordinator Clive Ward G1EUC on
Tel: 01245-224577
Mob: 07860-418835
E-mail: training2009@g0mwt.org.uk
Web: http://www.g0mwt.org.uk/training/

Credit: GB2TAM article by Mark Sanderson M0IEO
Attached Pictures:
Thorpe Abbotts Control Tower
by John Bowen G8DET

The DF5XV's Project Tsunami or 3 years of work due to a bet about a crate of Bitburger beer

Burkhard, DF5XV, www.classicbroadcast.de , owns a Monster-PA of R&S called VK20. The live weight of this PA amounts to 1.6 metric tons, it needs a big room on its own with a defined supply and exhaust air and its output reaches frightening 20 Kilowatts, even for RTTY. As a driving transmitter a R&S SK01 is required. Burkhard has an official permission of the BNA for 20 KW on shortwave for broadcast, although not for ham radio. Such enormous values of transmitting power challenge even the creativity of an experienced high frequency engineer. Well, three years ago, the author of this article placed a bet against Burkhard to build a power amplified with more than half the output power of the VK20 in SSB mode, yet would fit the trunk of a compact car as well as a manageable weight. Burkhard's answer: No way! So the race was on!

After three years have passed, the project with working title „Tsunami" is finally completed. Even the additional difficulty of a minimal required input power of only 100 Watts, achieved by every amateur transceiver, in order to attain the full SSB transmit power of approximately 15 Kilowatts was accomplished. A total amplification of about 21 dB is technically very ambitious as it was not the goal to build a power oscillator. The tube which satisfies the technical requirements of the project „Tsunami" for sure without reaching its limits is the 4CX10000D. According to the Eimac spec sheet for SSB linear amplification applications, this tetrode features a plate dissipation of 12 Kilowatts (Ua, max: 7500 V, Ia, max: 4 A) and provides a continuous output of 16 Kilowatts within the guaranteed values by Eimac. The plate input power results in 25 Kilowatts in this case. If the heating power of 563 Watts, the power of the screen and control grid as well as for the fan and other system requirements is added, a powerfull three-phase alternating current adapter is necessary. The fuse box of the single family house owned by the author provides a connection with 3 times 40 Amps at 400 Volts, hence a continuous power rating of 28 KVA. This is barely enough for a 16 Kilowatts continuous carrier – doing one's laundry in a washing machine at the same time should be avoided, though.

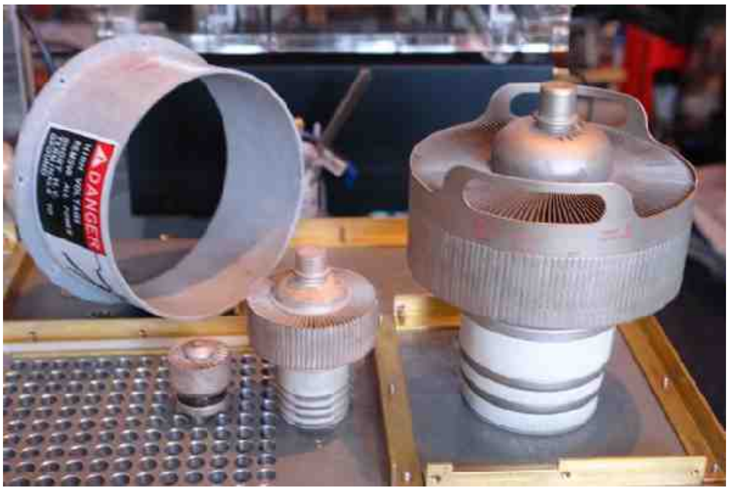


Fig.1: Size comparison: 4X150A, Pv = 250 W / 4CX1500B, Pv = 1500 W / 4CX10000D, Pv = 12000 W - The 322 holes in the 8 mm floor panel (underneath the transformer) are used as a cooling air intake.

Of course, in SSB mode this calculation is different. Without a voice compressor the average power in an OM-typical continuous QSO is only 20 to 25 percent of the peak power, with the use of a compressor the average power increases up to 30 percent. The plate high-voltage transformer of the Tsunami power amplifier is designed for 10 KVA, because for a SSB output power of 15 Kilowatts with an amplifier efficiency of 65 percent and an average voice power of excessive 33 percent (with dreadful contest modulation), the required transformer power amounts to 7.6 KVA. Thus, a 10 KVA transformer is more than sufficient to conduct comprehensive continuous QSOs in SSB. In case one listens to the dialog counterpart once in a while, the dimensions of the plate transformer is downright luxurious.

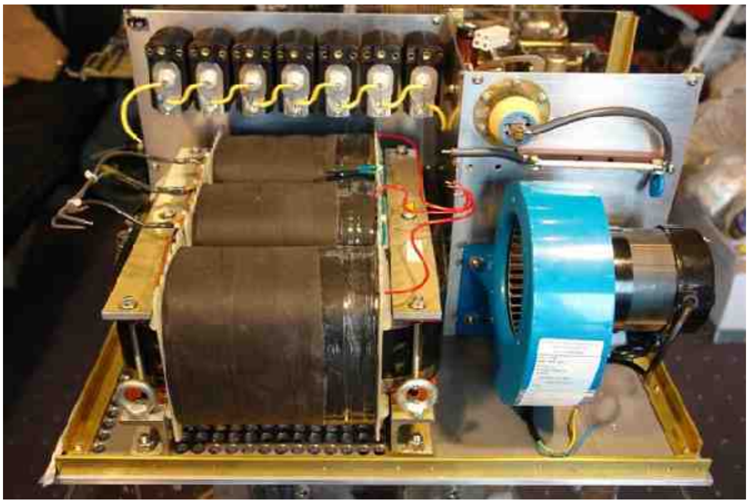


Fig. 2: 10 KVA three-phase alternating current tape wound hypersil plate transformer, weighs only 70Kilograms. Underneath the transformer one can see the 322 holes of 12 mm diameter, allowing for an especially quiet cooling air intake also cooling the transformer.

Additionally, the Tsunami power amplifier uses a 1.2 KVA toroidal core transformer for theremaining voltages. To power on the whole amplifier, a 1 VA transformer on the centralmotherboard is allotted. The turn-on procedure is designed to be very soft and after exactly 10seconds the amplifier is ready for full power.

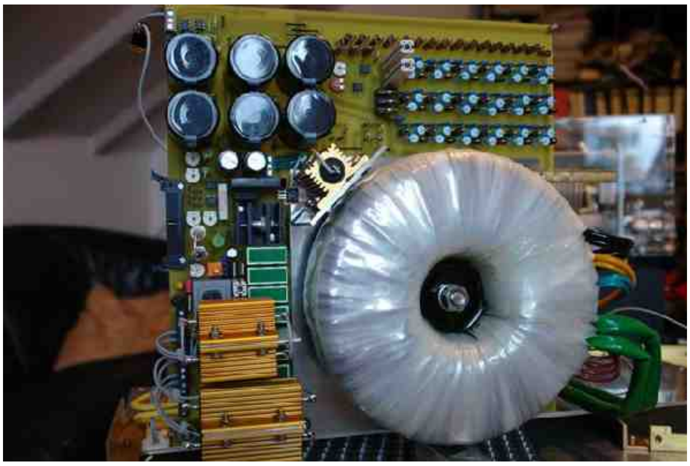


Fig. 3: Mainboard with 1200 VA toroidal core transformer (green connectors: 7.5 V - 75 A heating current), 1 VA transformer (center right, partly beneath golden resistor) for powering-on, 7800 V three-phase alternating current rectifier (top right), gold colored powering-on resistors (3 x 68 Ohms, 100 Watts, lower left), parts of the electronic controller of the control grid (center left)

After the dimensions of the main electronic components were determined, it was the constructor's ambition to build the world's only desktop output stage using a 4CX10000D which would fit on any reasonable station table. It is impossible to construct a smaller 15 KW SSB power amplifier: the total height of the "Tsunami" is only 31 cm. There is a voltage of 1000 V but only 8 mm of space between the bottom of the housing and the tube socket. Between the plate and the housing cover there is a voltage of 7000 V but only a gap of 22 mm. Although these distances are sufficient even at high humidity (e.g. after DX activity), smaller clearances are unfeasible. Also, the width of the amplifier is reduced due to the plate transformer and the roller inductor to an optimum of 57.5 cm. The same applies for its depth: 58.5 cm. A smaller 15 KW SSB power amplifier is definitely impossible! The air flow for cooling was optimized. Cold air is sucked in bellow the anode transformer, keeping it cool at the same time. The warm air is then taken out on the shortest path above the plate. Of course, the best and most quiet fan available is used and mounted to the housing with a rubber joint to minimize vibrations. Also, on reception, the fan speed is reduced to further minimize noise. Still, the radial fan is dimensioned to absolutely be on the safe side, so the air flow through the amplifier tube is increased when transmitting, which is not quite inaudible. But the amplifier stays cool even during non-stop operation.

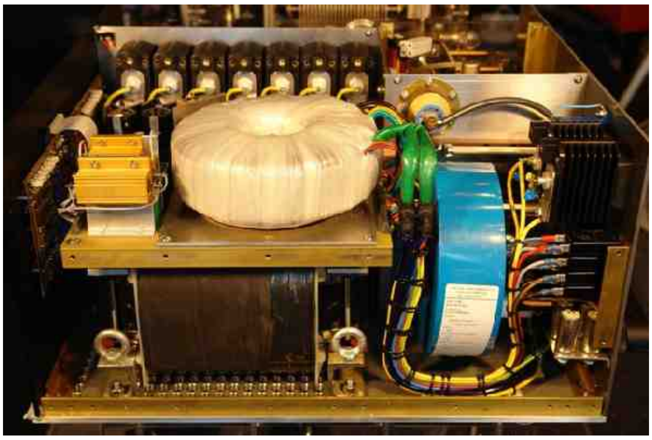


Fig. 4: On the bottom: three-phase alternating current hypersil plate transformer with 10 KVA, on top the central controller board with a toroidal transformer with 1200 VA (green connectors: 7.5V / 75 A heating current), fan (blue), 7 Zener diodes (50 W each) for the screen grid (behind the toroidal transformer). Two Zener diodes (50W each) as bias voltage of the precise electronic voltage control for the control grid are mounted to the rear panel. Plate fuse and feed through capacitor (top right), front panel with display board and digital control system for all switching operations (10 ms timing) of the amplifier as well as the control logic for the motors of two variable vacuum capacitors (left).

The configuration of the power amplifier without the front panel is depicted in Fig. 5. A ribbon cable connects the central main board with the display and control board on the back of the front panel. This display and control board also contains the complete processing logic of the amplifier as well as the Darlington transistors to directly control of all power relay. The power or RF relays will definitely not be triggered under load. Therefore, even the vacuum relays are working under optimal conditions. Fig. 6 shows the configuration of the front panel without pushbuttons and switches. By the way: the advantage of LED displays is their ability to display PEP values without indolence. In order to provide a stable operation of an power amplifier featuring an amplification of 21 dB, a transformation of the input voltage to the required driving voltage of the tube (approx. 245 V), an excellent RF insulation between tube input and output as well as additional neutralization of the tube is required. The insulation between tube input and output was achieved by galvanically grounding the screen grid and the installation of an additional mechanical perforated grid between screen grid and the plate of the tube at the same time. This mechanical effort depicted in Fig. 7 has never been reported before in public descriptions, so this might be a new idea. The screen grid was also grounded using 8 low capacitance connections. Fig. 7 also presents the RF plate choke of 112 uHy and the 8 KV feed through capacitor. The plate choke was supplied with an adjustable short circuit ring (silver wire with Teflon hull) in order to put two resonance points in the center between amateur bands.

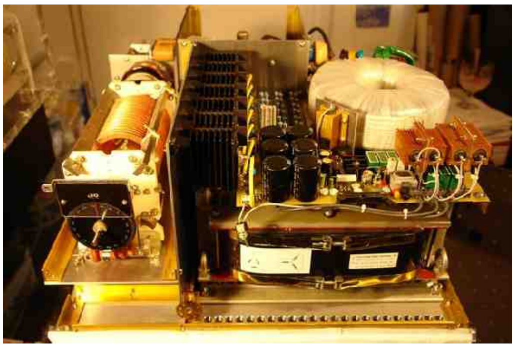


Fig. 5: Front view without front panel, side plates and back board. Three-phase alternating current high voltage plate transformer (bottom right), central power supply board with toroidal transformer (above plate transformer), 7 x Zener diodes for the screen grid (center top), roller inductor (top left), cogwheel (bottom center) for switching the control grid transformer parts (compensating the input capacitance of the tube and neutralizing the tube itself, 11 switching positions for all amateur short wave bands)

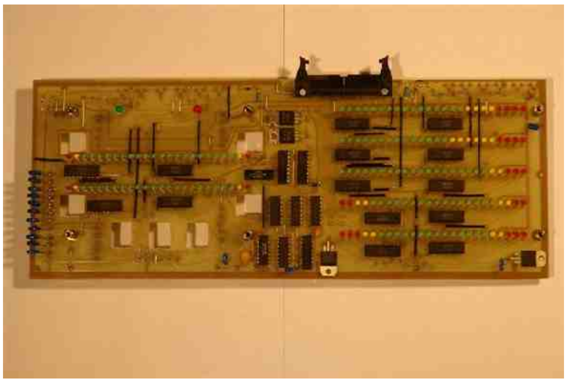


Fig. 6: Display and control board: the 8 ICs in the center control all PA functions with a 10 ms timing

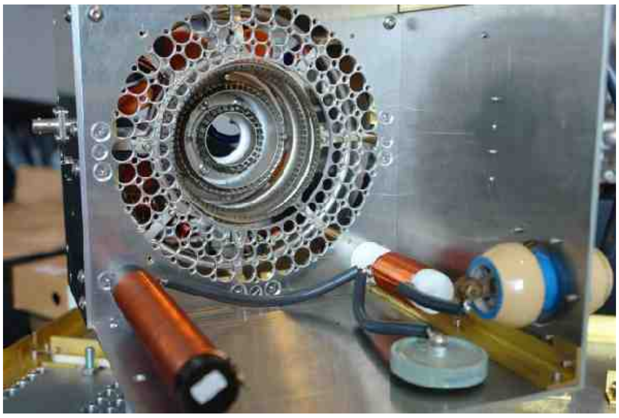


Fig. 7: RF insulation of the grid area from the plate area by a perforated metal plate of 4 mm thickness. The eight low inductive ground connection of the screen grid are visible directly behind the perforated plate. Instead of the smaller second RF plate choke a 2 pF capacitor was later installed for neutralization

The modular tube package is depicted from the grid side in Fig. 8. The heating current (7,5 V / 75 A) is provided by the blue wires (2 x 16 mm²) whereas the orange ceramic capacitors (4,7nF / 6,3 KV) are the bypass capacitors which will RF technically ground the cathode on the shortest path. On the top right the input transformer is visible. This transformer with ratio 1:4 was replaced by another transformer with ratio 1:9 (tripling the voltage). The generously dimensioned RF input resistor has 450 Ohms at a 500 Watts input. The band switching is done by an 11-pole rotary switch. In the final version this switch was equipped with two layers, one for optimizing the input SWRs, and the other for neutralization. Also the coils for compensation of the different bands are partly visible. The modular and compact construction of the tube unit is very solid and easily accessible for service and optimization. The neutralization of the unit is carried out with heating and control grid voltage applied. Each and every band was optimized with respect to the input SWRs and neutralization with great precision, which was very tedious but the essential key for the success of the project. There is a distinct switch position for each band; the broad 10 m band however requires three positions. But of course the Tsunami power amplifier works stable even without neutralization, but the amplification is lower in this case and is slightly dependant on the frequency. So for perfect operation at an amplification of 21 dB all technical possibilities must be exploited.

But the results of superior RF production with unrestrained power compensate for the costly calibration work. With an input power of only 5 Watts an output of 750 Watts is achieved. With 30 Watts input the output power reaches 4400 Watts. Even with an SSB input power of 100 Watts the gain remains constant, i.e. the output power amounts to (40 m) 14.6 KW. The tube is not really challenged and demonstrates well-being and nonchalant performance. Only the terms of license are not really humored if the antenna shall be used as a load resistor. Unfortunately, a 5 KW dummy load by Bird was not really humored as well and quit its service with a loud bang after about 6 seconds of a 10 KW load (taking the picture for figure 14 took this long). All in all the construction was the sole goal of this project, besides the crate of Bitburger beer in case the bet should be won, of course …

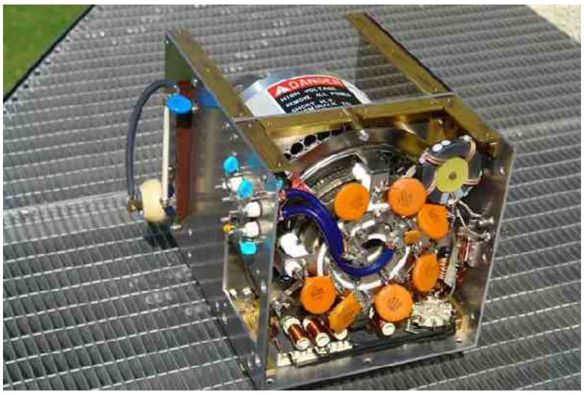


Fig. 8: Grid input: adjustable input inductors (bottom), HF input resistor (right of center), RF transformer (top right), 11 pole band switch (bottom right), other details: see text

The output transformer network (pi filter) can be seen in Fig. 9. Roller inductor and counter dail are on the right, the massive 10 m inductor at the top of the image. The 500 pF / 15 KV vacuum rotary capacitor in conjunction with the 2500 pF / 5 KV vacuum rotary capacitor determine the adjustment of the tube output impedance (about 3700 Ohms) to the 50 Ohms of the coaxial connector, based on the ratio of their capacitances. Of course, the 500 pF is primarily responsible for resonance adjustment. For a pi filter consisting of exactly these components, an operating frequency in the range of 1.8 – 29.7 MHz can be selected continuously. Furthermore, the Q of the pi filter can also be continuously adjusted according to specific needs. These are obvious advantages over pi filter with RF switches. The vacuum rotary capacitor can be turned while under full RF load without any problems; its variation range is about 1:100 compared to 1:10 for variable air capacitors. The only disadvantage of such a circuit is the high cost of its components in contrast to a switched network with air rotary capacitors. Aside from this, the usual components would quickly go up in smoke due to the available RF output power. A keyed signal (1 KHz, keyed at 20 Hz, on-off-ratio 1:2) is used for a quick and precise adjustment of the pi filter. The signal is looped into the microphone cord and hence provides perfect SSB adjustment: http://www.mydarc.de/dc9tm/ .

The author only has a 100 W transceiver available, which is the reason why the measurement of the output power ends at 14.6 KW SSB (40m). In case this is not enough, the Tsunami power amplifier can produce even more output power by increasing the input power. But it remains the operator’s decision to observe the limitations, which is a question of character.

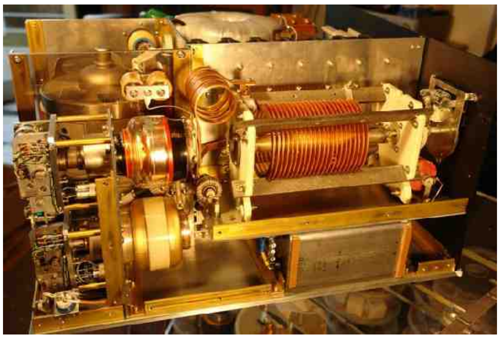


Fig. 9: Pi filter with roller inductor and counter dail (top right), 10 m coil (top center), two motor controlled vacuum rotary capacitors, 500 pF (15 KV) on top and 2.5nF (5 KV) below. Bottom right: two MP capacitors (32 uF / 6 KV each, so 16 uF / 12 KV combined) for the plate voltage

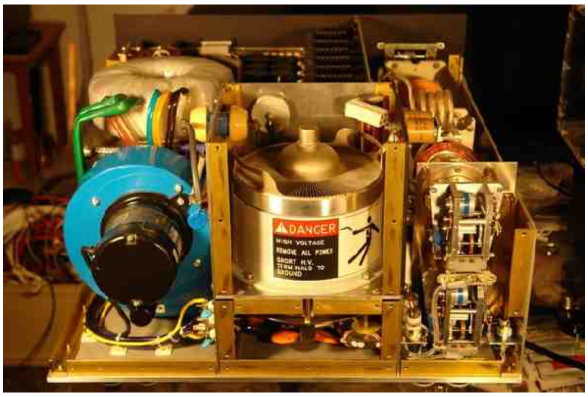


Fig. 10: Power amplifier without back board, the motors for the two vacuum

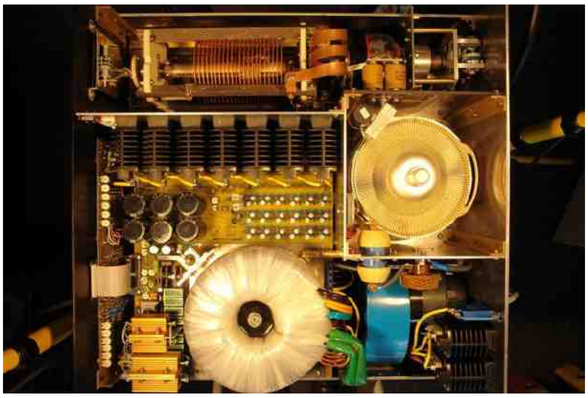


Fig. 11: Finished Tsunami power amplifier; top view, the brand new tube is shining happily!

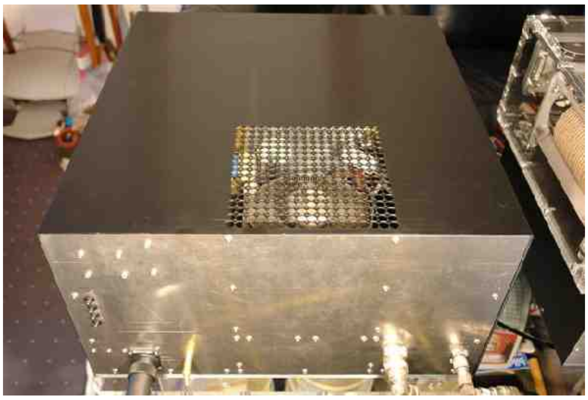


Fig. 12: Tsunami power amplifier; back view (left to right: 4 main fuses (circuit breaker), three-phase alternating current connection (5 x 32 A, 400 V), PTT (cinch), output (7/16), input (SO239))

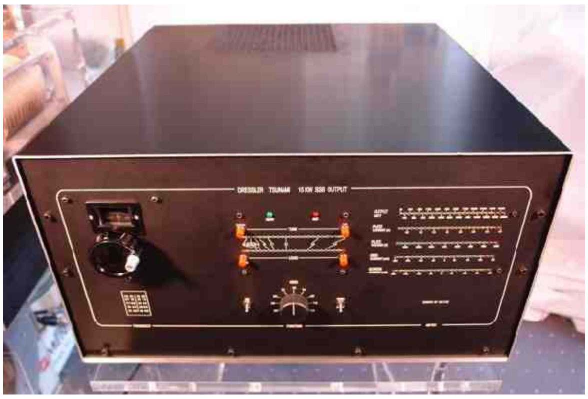


Fig. 13: Finished Tsunami power amplifier on a sustainable acryl glass table, custom-made

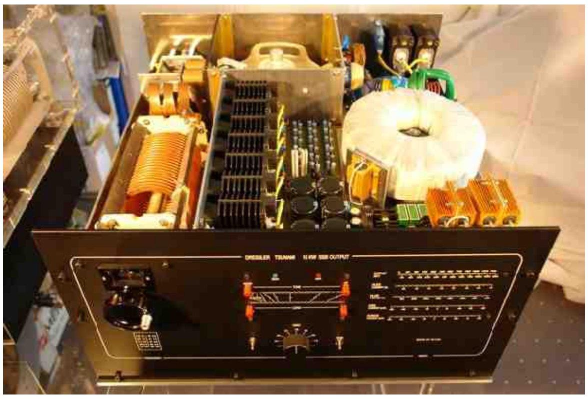


Fig. 14: Finished Tsunami power amplifier: Does anybody know of a smaller 15 KW SSB output stage?

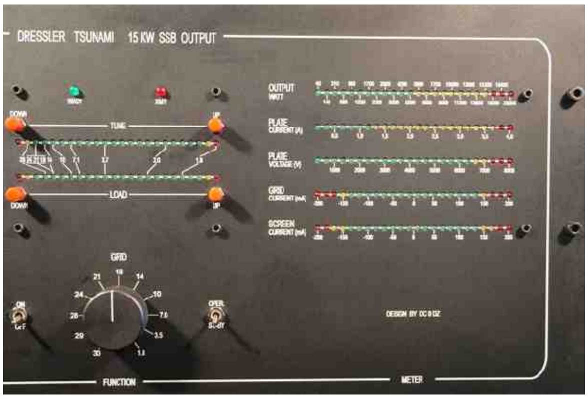


Fig. 15: Detailed view of the laser inscribed front panel

Data of Tsunami RF Linear Amplifier

RF linear amplifier covers all amateur bands from 1.8 MHz to 29.7 MHz

3 Power supply transformers	10000 VA , 1200 VA & 1 VA
Plate voltage at full output power	6500 V
Screen voltage, stabilized	1000 V
Grid voltage, regulated	- 245 V +/- 20 V
Filament	7.5 V / 75 A
Input SWR in the middle of band	
	160 m – 30 m 1 : 1.25
	20 m 1 : 1.35
	15 m 1 : 1.45
	12 m – 10 m 1 : 1.65
Gain (1.8 – 29.7 MHz)	20 - 21.6 dB
Neutralization	1.8 – 29.7 MHz:
Isolation between input and output	45 – 50 dB

Output with:

5 W Input:	0.75 KW	Input: SSB Signal:
10 W Input:	1.5 KW	33% of full 1 KHz Modulation
20 W Input:	2.9 KW	on / off Ratio 1:2, Interruptions: 20 Hz
30 W Input:	4.4 KW	
40 W Input:	5.8 KW	Equipment:
50 W Input:	7.3 KW	R&S 20 KW Dummy Load
60 W Input:	8.7 KW	Bird Power Meter
70 W Input:	10.1 KW	
80 W Input:	11.6 KW	Measurements
90 W Input:	13.1 KW	on 7.1 MHz
100 W Input:	14.6 KW	

Harmonic output	50 dB below rated output
Intermodulation distortion	35 dB or better
Tube Eimac	4CX10000D

Input network:

1:9 Transformation, 450 Ohm, 500 W HF Resistor, Tube Input Reactance Compensation & Neutralization for each band, 11 pol. bandswitch, two levels

Output network:

Roller inductor 20 uH & 2 motorized vacuum capacitors 500 pF / 15 KV and 2.5 nF / 5 KV

Metering: Display of all parameters – no switching

Computer control of all switching functions: No relays switching under power conditions

Soft start inrush, 10 sec delay time for full power

Turbine blower with 2 speeds

Well regulated screen and grid supply for +ve and –ve currents as well as current limiting to protect the tube and minimize the IMD. It´s impossible to override the screen and grid dissipation at any working conditions

The finish is of high quality black eloxial aluminia

Dimension	575w x 310h x 585d mm
Weight	132 Kg
Accessory (for Icom-Transceivers)	Module for optimized tuning (1 KHz; on / off: 1:2, 20 Hz)
Price:	Very low: About 1.7 €/W (1.7 €/W x 14.6 KW = 24.8 K€)

Some comments on the measurements

Measurements of the output power of the Tsunami power amplifier revealed a decreased output at higher frequencies. It turned out that this is mostly due to the ICOM transceiver (IC 7400) as its output is reduced when frequency is increased. Although it still pretended an output power of 100 W on its display, but the actual output at 10 m was only 74 W for example (with tuner). In general, the RF parts used in the Tsunami output stage are not small in terms of space due to their high performance. Hence, the signal paths and stray capacitances are inevitably larger as, for instance, in a 1 KW power amplifier. Still, the Tsunami features an impressive output power across the full frequency range from 160 m up to 10 m. The complex roller inductor allows for a continuous variation of the operating frequency across a broad frequency range, but the disadvantage is that the requirements of frequency variation, e.g. the skin effect, cannot be accounted for due to the constant turns of the coil. In switched pi filters, the respective inductor parameters like coil diameter, thickness of the conducting layer as well as the distance between the coils can be adjusted according to the desired frequency range, thereby a uniform output is achieved across the full frequency range. However, the Q of the output circuit predetermined by a fixed number of taps, whereas it can be continuously adjusted using a roller inductor.

For the Tsunami project, particular attention was devoted to resilience and reliability so the roller inductor that is used was chosen from a set of 8 different inductors according to these aspects. With a modification of its contact finger, the shortest possible contact path between roller inductor and the two vacuum rotary capacitors could be achieved. Also, motorized capacitors were a requirement for the best possible placement of the two pi filter capacitors. It is only due to these artifices that the frequency range of the Tsunami power amplifier completely covers short-wave, including the medium wave region of the 160 m band. The small variation in the amplification factor within the single bands can be easily compensated with a variation in input power. The performance of the fully assembled Tsunami is well beyond traditional amateur radio

means. Of course, one has to especially deal with the performance of antennas, antenna couplers, cable connections and so forth. A 165 m loop antenna, a reasonable open wire feeder and a well dimensioned antenna coupler permit for smooth operation on all bands discussed here, but excessively exceeding legal constraints should not be considered. As the author abides to the rules, the Tsunami is up for sale – but of course the bet has to be won first.
Of course, interfering factors also increase with increasing power. So one has to deal with complications like, e.g. for the author, RF destroying DSL modems. Therefore, a great deal of attention has to be paid to control strayed RF in the system. As soon as ferrite beads were attached to the 230 V and 400 V power cords as well as the PTT and HF control cables, everything was fine again.

So are destroyed DSL modems acceptable for fellow human beings? Of course not! As the German philosopher Max Weber says: Every human is responsible for his own bondage. This can be translated to: One should only create as much power as circumstances and fellow humans permit. ??!

Accessories / Miscellaneous

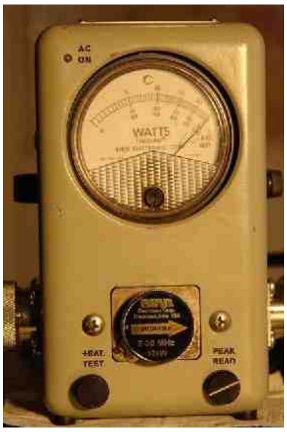
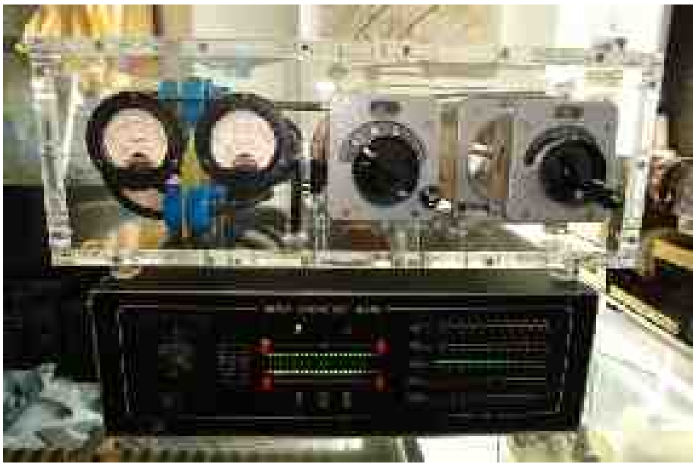
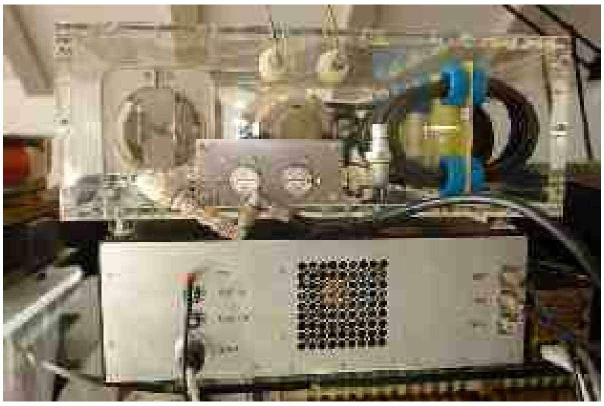


Fig.16: Proof of output power: With an inputof only 70 W on 40 m the Tsunami poweramplifier provides an output of 10.1 KW.





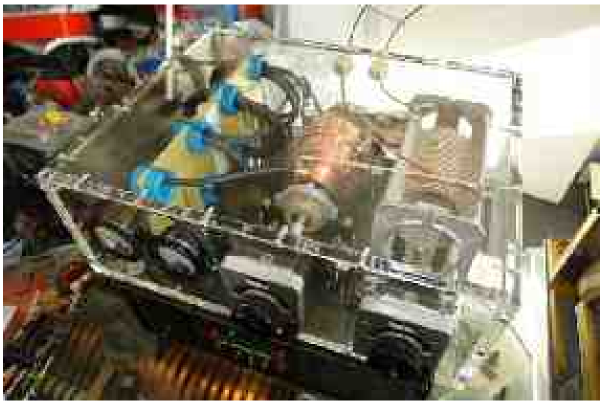


Fig. 17 – 19: The exclusive Tsunami capable antenna coupler in acryl glas, working up to 15 KW SSB output in a frequency range from 160m up to 10 m. The integrated power meter (original Bird) exactly indicates forward and reflected transmission power, allowing for quick and accurate adjustment of the antenna. The coupler sits ontop an amplifier with a 4CX1500B, which provides an output power of at least 2 KW SSB at a height of 16.5 cm.

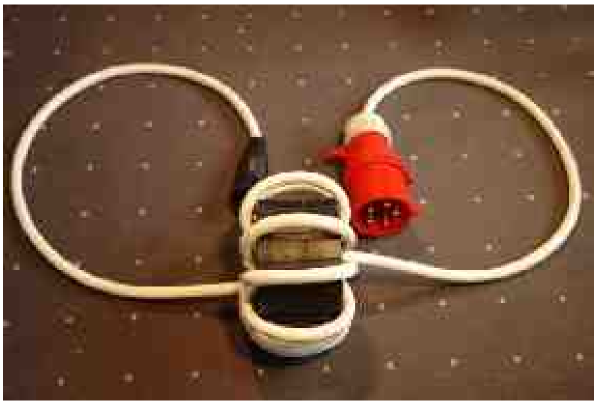


Fig. 20: Ferrite bead for 3 x 400 V power cord, weighing about 4 Kg.

The author would like to thank his radio colleagues for the valuable support and assistance during the realization of the Tsunami project.

THE DX NEWS

From the Web (tnx opdx, 425 dx news, arrl...)

3D2, FIJI

Operators Jacek/SP5EAQ and Jacek/SP5DRH will be active as 3D2MJ and 3D2KJ, respectively, from Viti Levu (OC-016), starting October 1st for four weeks. Activity will be on all bands, but with an emphasis on the lower bands. They plan to use two stations with small amps and vertical antennas. QSL via their home callsigns.

4W, TIMOR-LESTE

Currently, two operators are active from here. Al, CT1GPQ, now active as 4W6AL, will be there until October 3rd. Remember, this is "NOT A DXpedition"! CT1GPQ is in Timor-Leste with a medical team and radio operations will take place only during his spare time. He was heard this past weekend on 20 meters CW at various times between 0800-1300z. QSL via Toze, CT1GFK. Online log is now available at: http://algarvedx.com

Second operator is Chris, VK4FR, now active as 4W6FR, will be there until mid-October. He is also on a work assignment. Chris was heard this past weekend mainly on 30 and 20 meters using PSK31. QSL 4W6FR via VK4FW.

5B, CYPRUS (New IPA Op!)

Gab, HA3JB, will be active as 5B/HG3IPA between September 25th and October 2nd. This is a new IPA activation and is valid for HA-IPARC Award (Hungarian International Police Association). Find IPARC Award info at: http://www.ha3jb.com/award.html

Gab plans to be in the CQWW RTTY Contest (September 26-27th). Online log will be available on his Web page at: http://www.ha3jb.com

9H, MALTA

Members of the Dutch Society of Radio Amateurs (VRZA) will once again be active using their special callsign 9H9PA from Qawra between September 5-28th. Activity will be on 80-6 meters using CW, SSB and the Digital modes. QSL via PB9ZR, by the Bureau or direct to: Ruben van der Zwet, Van Speykstraat 238, 2161 VT Lisse, The Netherlands. NO IRC coupons, they are not valid anymore in the Netherlands (2 USDs only).

PLEASE NOTE: Operators will also operate under their individual callsigns. The following callsigns were mentioned: 9H3AB (QSL via PA1SL), 9H3DZ (QSL via PA2AM), 9H3FD (QSL via PA3FHR), 9H3ON (QSL via PG9W), 9H3S (QSL via PA3HGP), 9H3X (QSL via PE1NGF), 9H3YM (QSL via PE1OFJ) and 9H3ZR (QSL via PB9ZR).

9M6, EAST MALAYSIA

Operators Miki, JJ2CJB/AC2AI will be active as 9M6/JJ2CJB from "Langkah Syabas Beach Resort" located near the city of Kota Kinabalu on the Island of Borneo (OC-088) for the CQWW DX SSB Contest (October 24-25th). He plans to run 400 watts into a Force12 C4 beam. QSL via LoTW, e-QSL or the JA Bureau.

AH0, MARIANA ISLANDS

Kuny/W1FPU (7L1FPU) and his nine-year son Yoshiki/ KH0UA (JF1UCV), Tomo/N2QP (JQ1OCR), his wife Yuri/KE7TWK, Hajime/AH0BR and Moto/W1NDE will be active from the Mariana Islands between September 4-7th. Activity will include a Multi/Multi entry in the All Asian DX SSB Contest (September 5-6th) as AH0BT. QSL via 7L1FPU, by the Bureau and direct.

EA6, BALEARIC ISLANDS (EU-004)

Adrian, AA5UK, will be active as EA6/AA5UK from Ibiza (JM09tb), October 14-29th. Activity will be holiday style on 160-10 meters using mostly SSB and various Digital modes. Also, look for satellite activity on various birds. He will also be active during CQWW DX SSB Contest (October 24-25th). QSL via his home callsign, by the bureau, LoTW or eQSL.

FT/G, GLORIOSO ISLAND (Update)

Didier, F5OGL, Glorioso 2009 team leader, announced this past week (on August 19th) that "the Glorioso 2009 team has in hand the flight tickets from Paris CdG to the St. Denis Reunion Island airport. The departure is scheduled on September 11th and the return on October 8th. The information about the French Forces Transall flight from Saint Denis to Grande Glorieuse will be published as soon as the FASZOI Hq will have confirmed them. (FASZOI = French Armed Forces for the South Indian Ocean Zone) The stay on Grand Glorieuse is considered having about three weeks length. All the gear has been picked up and is now ready packed on pallets to be sent to the Reunion island in the next few days. Thanks especially for that to the Provins ARC, F6KOP members Serge, F6AML and Frank, F4AJQ." For more details and updates, visit the FT5GA Web page at: http://glorieuses2008.free.fr

HL9, SOUTH KOREA (Update/Attention PFX Hunters!)

Mike, KE7WRJ, will be here for over 2 months starting September 9th. He plans to be active as HL9QST, September 10th, but no later than 11th. This is a rare prefix only assigned to U.S. Service members assigned to Korea. His tentative schedule is to operate from 4 different locations in South Korea as follows: September 10-12th: Seoul - September 14-24th: Camp Casey - September 25th-October 18th: Camp Humphreys + October 19-29th: Camp Carroll - October 30th-November 13th: Seoul

Activity will be on 40-10 meters, depending on the propagation, using CW and SSB. Operations will be at least 8 hours a day during the week and longer over the weekends. Look for him to be in both the Extra and General portions of the bands. His equipment will consist of a 5000A by Flex Radio, a "3 element Yagi in a Bag" from Super Antennas. QSL via KE7WRJ, direct or LoTW.

JD/O, OGASAWARA

Operators Makoto/JI5RPT (JD1BLY) and Taka/JO2JDJ (JD1BLP) will be active from Chichijima Island (IOTA AS-031) between September 19-22nd. Activity will be on 40-6 meters using the satellites, CW, SSB and Digi modes. QSL via their home callsigns. Log search for JD1BLY will be available on the following Web site: http://www.ji5rpt.com/jd1/

LX, LUXEMBOURG

Operators Theo/PA1TK, Kees/PA5WT and Rob/PA3GVI will be active as LX/homecall between September 4-7th. Look for Kees and Rob to focus on the HF bands between 80-10 meters using CW and SSB. While Theo operates in the IARU VHF Contest on 144 MHz (2m). QSL via their home callsigns.

P29, PAPUA NEW GUINEA

Allan, VK2GR, will be active as P29CW from the Western Province between September and December. Activity will be only during his spare time because he is there working with "Australian Doctors International" - ADI - http://www.adi.org.au

Due to the limited availability of power, Allan may not be active on the many field trips during his stay. QSL direct to Tommy, VK2IR, with 3 USDs or new IRCs. PLEASE NOTE: DO NOT send QSLs to the Papua New Guinea address.

SN120, POLAND (Special Event)

Look for special event station SN120OSP to be active between now and October 31st. Activity will be on all bands and modes. Operations are to celebrate the 120th anniversary of the auxiliary fire brigade of the Polish City "Gorowo Ilaweckie". QSL via SP4CUF.

SPECIAL EVENT

The ARRL announced that the Hiram Percy Maxim Birthday celebration is back! This year, the ARRL is honoring the 140th anniversary of the birth of the League's first president and co-founder. Hiram Percy Maxim, W1AW, was born September 2, 1869 and died February 17, 1936. The special event is open to all amateurs, and the goal is to work the stations adding /140 to their callsigns, and contact as many as possible during the event period, September 2-9th.

A special certificate is available for making at least 25 contacts with /140 stations, with endorsement increments of 25, and a maximum endorsement of 100. Who is eligible to sign /140? ARRL members who hold ARRL appointments, ARRL elected volunteers (such as ARRL Directors and Section Managers), ARRL Life Members, ARRL Head- quarters staff and VEs, AECs, QSL bureau workers and awards managers (who are ARRL members).

The complete list of eligible positions can be found on page 20 of the September 2009 issue of QST. For more details, read ARRL Letter (Aug. 21st, Vol. 28, No. 33) or go to the ARRL Web page at:

http://www.arrl.org/news/stories/2009/08/17/11025/?nc=1

T31, CENTRAL KIRIBATI

Craig, N3BQR, will be on a research trip to Phoenix Island (OC-043) and expects to be active as T31AA between September 10-25th. Part of his research will involve Craig trying to land on at least six of the eight islands in the chain, although this is subject to local sea state conditions. Activity is expected on 20 meters SSB using vertical and/or dipole. QSL route to be announced later.

TI5, COSTA RICA

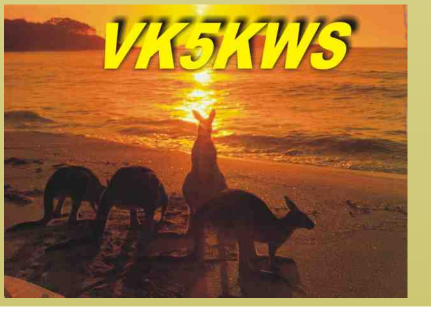
Operators Lewis/WW4LL and Andrei/EW1AR/NP3D will be active as TI5/homecall between September 23-28th. Activity will be on all bands using RTTY, SSB, and perhaps some CW. QSL via LoTW, also direct per (QRZ.com) address.

XW, LAOS

Bruce, XW1B, will be active during the CQWW DX CW Contest (November 28-29th) as a Single-Op/All-Band entry. QSL via E21EIC.

ZK2, NIUE

Koji, JM1CAX (ex-D2NX), will be active as ZK2NX between September 19-25th. Activity should be on all bands, especially 30/17/12 meters, mostly CW, but some SSB. QSL via JM1CAX, by the Bureau or direct.



DX-CALENDAR

By SM3CVM

The calendar is available at http://www.sk3bg.se/

- 7/9 WEST- EAST MALAYSIA and BRUNEI; 9M8QQ, 9M6QQ and V85QQ
from Sarawak (9M8QQ), Sabah (9M6QQ) and Brunei (V85QQ) by DF5UG. (QSL via home call.

- 30/9 CROZET I.; FT5WO AF-008
by F4DYW says he will be working at Alfred Faure Base on Ile de la Possesson. He plans to operate on 20, 15 and 40 metres SSB during his spare time, using 100 watts and dipoles. QSL via home call, direct or bureau. Look for updates on http://f4dyw.free.fr/index.php?langue=fr&contenu=ft5wo.html

- 31/9 MONGOLIA; JU85TTC
to celebrate the 85th anniversary of "Technique Technology College of Mongolia. Activity over the past weekend has been on 20 meters CW. QSL via JT1DN.

- ca 2/10 CHILE; CE73RG
The Radio Club Rancagua (CE4RG) was founded on July 22, 1936, and the 73rd anniversary will be celebrated with the special event station. Operation will take place in CW, SSB and PSK on 80/40/20/17/15/12/10m. QSL via CE4WJK.

- 3/10 TIMOR-LESTE; 4W6AL
from Timor Lorosae by CT1GPQ. Activity will be on 40/30/20/17 meters SSB, RTTY and preferably CW. His station setup will be an Icom IC-706 MK2g, a dipole for 40 and 30 meters and square loops for 20 and 17 meters. Pilot station and QSL Manager is Toze, CT1GFK. The pilot station will be in daily contact with CT1GPQ. Any questions or suggestions should be sent to star@algarvedx.com
Activity logs will be online (possibly daily) on http://algarvedx.com/
All information will be sent first via the Algarve STAR DX Team Mailing List. Subscriptions are available on team's WEB site. PLEASE NOTE: This is "NOT A DXpedition"! CT1GPQ will be in Timor-Leste with a Medical Team and radio operations will take place only during his spare time.

- 31/10 JAPAN; 8J6SL AS-077
from the Kumamoto Museum to celebrate the 100th anniversary of Hisatsu (Railroad) Line (Steam Locomotive) on the Island of Honshu (JIIA AS-077-001). Activity will be on all bands and modes. Possibly 5 stations will be on the air. QSL via the JARL Bureau.

- 1/11 ANTARCTICA; VKØBP AN-016
is currently working at Antarctic Davis Base Station, Gridsquare MC81xk. His activity is limited due to his workload, but he is expected to be on all HF bands. He seems to like 20 meters between 1500-1800z. Operations have been on SSB and PSK31, but he plans to operate on other modes later on during his stay at the Davis Station. QSL via VK2CA. PLEASE NOTE: There is also a possibility of activating other field huts in the area, and he will sign as VK0BP/P. Look for more details on his Web page at http://www.vk0bp.org/

- ca 16/11 LEBANON; OD/W5YFN
has received approval from the local authorities while in Lebanon, for one year starting on 16 November.

- 31/12 HONG KONG; VR2009EAG
special event to promote the Hong Kong 2009 East Asia Games. Operations will be primarily on the HF bands from 40-10 meters
and VHF on 6 meters. The modes used will be primarily SSB, RTTY, PSK31 and SSTV. QSL Manager VR2XMT: Charlie Ho, PO Box 900, Fanling Post Office, Hong Kong.

- 2009 WEST MALAYSIA; 9M2TI
by EA4ATI to work in Kuala Lumpur for the whole year 2009. He will work with 400 watts and a vertical in CW and SSB on 40m/20m/15m/10m. He also plans to take part in all major contests (if possible from stations better equipped). QSL via EA4ATI.

- May 2010 PHILIPPINES; DU9/DL5SDF OC-130
expects to be QRV from Mindanao Island. He operates CW only. QSL direct to Hans Bohnet, Purok 5, Lower Bon-Bon, Libertad, Butuan City 8600, Philippines or via the DARC bureau to DL5SDF (bureau card requests will have to wait until June 2010, when he will go back to Germany).

- 31/10 2010 CANADA; VA7PX NA-075
from Mayne Island. QSL via VE7AXU via bureau or direct.

- 2010 MARSHALL IS.; V73NS OC-028
from the Kwajalein atoll by WD8CRT, who will have to work here for two years starting on Jan 5, 2009. He will work mostly in CW on 160-6m. QSL via bureau or direct to Neil Schwanitz, PO Box 8341, APO, AP 96557, USA. His website is http://www.qsl.net/v73ns/

31/8 - 3/9 CANADA; VYØO NA-230
from the Ottawa Islands by VE3LYC. The islands are quite far from the mainland, and weather conditions can influence his schedule.

1/9 - 28/9 CANADA; K3GV/VY2 NA-029
from Prince Edward Island. Activity will be on 15 and 20 meters around the usual IOTA frequencies. QSL via home callsign, direct or by the Bureau.

4/9 - 16/9 AUSTRAL I.; FO/G3BJ OC-050 and OC-152
from Rurutu and Tubuai by G3BJ and G4JKS on vacation. Operations will be mostly CW on 80-10 meters (no 17/12m). They will use a K3 transceiver and a Butternut HF6.

6/9 - 7/9 FIJI; 3D2 OC-016
Requested call is 3D2G. This pacific dxpedition/tour by PG5M will be an ultra light solo DXpedition and CW only. He will use an Elecraft K3, and a 2x20m doublet plus vertical antennas. QSL via PG5M, by the Bureau or direct. For direct requests, please enclose a minimum of 2 USDs for return postage. More details and updates will be available on http://www.dx.to/

8/9 - 14/9 W. KIRIBATI; T30G OC-017

from Tarawa Island by PG5M on Pacific dxpedition/tour. This will be an ultra light solo DXpedition and CW only. He will use an Elecraft K3, and a 2x20m doublet plus vertical antennas. QSL via PG5M, by the Bureau or direct. For direct requests, please enclose a minimum of 2 USDs for return postage. More details and updates will be available on http://www.dx.to/

8/9 - 17/9 ARUBA; P41USA

by W3BTX (P49T) and W3TEF (P4/W3TEF) will once again activate P41USA this year over the anniversary date of the USA attacks on September 11th, 2001. Look for them to be active on all bands. Activity will include the September VHF Contest. All QSLs go to W3TEF.

15/9 - 16/9 FIJI; 3D2

Requested call is 3D2G. This pacific dxpedition/tour by PG5M will be an ultra light solo DXpedition and CW only. He will use an Elecraft K3, and a 2x20m doublet plus vertical antennas. QSL via PG5M, by the Bureau or direct. For direct requests, please enclose a minimum of 2 USDs for return postage. More details and updates will be available on http://www.dx.to/

17/9 - 23/9 TUVALU; T2G OC-015

Pacific dxpedition/tour by PG5M. This will be an ultra light solo DXpedition and CW only. He will use an Elecraft K3, and a 2x20m doublet plus vertical antennas. QSL via PG5M, by the Bureau or direct. For direct requests, please enclose a minimum of 2 USDs for return postage. More details and updates will be available on http://www.dx.to/

18/9 - 25/9 NIUE; ZK2BJ OC-040

by G3BJ and G4JKS on vacation. Operations will be mostly CW on 80-10 meters (no 17/12m). They will use a K3 transceiver and a Butternut HF6.

18/9 - 30/9 CHATHAM Is.; ZL7/N7OU

by N7OU making a lightweight, solo Dxpedition. Activity will be on 80-10 meters, CW only, using 100w into a vertical. QSL via N7OU.

22/9 - 21/10 MAYOTTE; TO7RJ AF-027

by DJ7RJ. He will be leaving the island on 25 October, so he will be active as FH/DJ7RJ during the last days. Expect CW and SSB on 160-10 metres and perhaps 6 metres. QSL via home call.

24/9 - 27/9 FIJI; 3D2

Requested call is 3D2G. This pacific dxpedition/tour by PG5M will be an ultra light solo DXpedition and CW only. This will be an ultra light solo DXpedition and CW only. He will use an Elecraft K3, and a 2x20m doublet plus vertical antennas. QSL via PG5M, by the Bureau or direct. For direct requests, please enclose a minimum of 2 USDs for return postage. More details and updates will be available on http://www.dx.to/

24/9 - 27/9 St. PIERRE & MIQUELON; FP/homecall NA-032

from Miquelon by M0TDG and G3ZAY. They will operate CW and SSB; low band operation will depend on equipment availability (and airline baggage limits). QSL via home calls. G3ZAY will also try to activate McNutt's Island (NA-126) on 29 September.

24/9 - 7/10 BONAIRE, CURACAO; PJ2/PA1FJ SA-006
from the Island of Curacao. QSL via his home callsign, direct, by the Bureau or eQSL.

26/9 - 1/10 ST. MAARTEN, SABA, ST. EUSTATIUS; PJ5/AH6HY NA-145
from Sint Eustatius. Activity will be holiday style with operations on 40-10 meters, mostly SSB with some CW. QSL via AH6HY, by the bureau or direct.

27/9 - 15/10 DOMINICA; J79ZG
by DL7AFS and DJ7ZG. Activity will be on 80-6 meters on the usual DX frequencies, mainly on CW, SSB, RTTY and PSK, as well as 6 meters. They will look especially for JA stations. QSL via DL7AFS. Their Web page for this operation is
http://www.qsl.net/dl7afs/Index_J7.html

29/9 - 12/10 AUSTRAL I.; TX5SPA (requested call) OC-152
from Tubuai by SP3DOI, SP3CYY, SP9PT, SP9-31029 and FO5QB. They will have three stations and will operate CW, SSB, RTTY and possibly PSK31 on 160-10 metres, with an emphasis on working Europe on the low bands. QSL via SP9PT. The web site for the expedition is at http://fo2009sp.pl/

30/9 - 3/10 TOKELAU IS.; ZK3
A multi-national team of 4 operators led by YT1AD. Details are expected in due course. Updates will be posted to the expedition's website at http://www.yt1ad.info/t31/index.html
1/10 - 10/10 CONWAY REEF; 3D2ØCR
Time depending on weather conditions. There will be 7 operators, and they will be able to run up to four stations simultaneously on 160-6 meters using CW, SSB and RTTY. QSL via DJ8NK, direct or bureau. A web page will be active soon at http://www.conwayreef2009.de/

5/10 - 10/10 CENTRAL KIRIBATI; T31
A multi-national team of 14 operators led YT1AD. Details are expected in due course. Updates will be posted to the expedition's website at http://www.yt1ad.info/t31/index.html

5/10 - 30/10 S. COOK Is; E51NOU OC-013
from Rarotonga Island by N7OU during his spare time. Activity will be on 80-10 meters, CW only, using 100w into a vertical. QSL via N7OU.

9/10 - 19/10 MIDWAY I.; K4M OC-030
After a seven-year hiatus, in late January 2009 the U.S. Fish &
Wildlife Service announced that they would once again allow amateur radio operations from Midway Atoll "on a trial basis". A multi national team will be active for ten days. They will have 5-6 stations active on 160-6 metres, with at least one station on 20m around the clock. Further information, including details on how contribute to this expensive expedition, can be found at http://www.midway2009.com/

10/10 - 27/10 BENIN; TY1MS
from Grand Popo by PA8AD, PA3AN, PA3AWW and PD0CAV including an entry in the CQ WW DX SSB Contest. Their goals are to activate this DXCC Entity on 160-10 metres, to provide onsite help and raise funds for the Mercy Ships Charity Project. QSL via PA3AWW, direct or bureau. Further information (including OQRS for direct QSLling) can be found at http://www.benin2009.com/

11/8 - 29/8 AZERBAIJAN; 4J/hc
by F2VX and F6FYD. They will operate SSB on the HF bands. QSL via home calls, direct or bureau.

12/10 - 14/10 WALLIS & FUTUNA IS.; FW
A multi-national team of 14 operators led by YT1AD. Details are expected in due course. Updates will be posted to the expedition's website at http://www.yt1ad.info/t31/index.html

12/10 - 25/10 MALDIVES; 8Q7AK AS-013
from Embudu Village, Embudu Island, WLOTA L-3911 by G7COD. Activity will be on 80-12 meters including 30/17/12m using CW
and SSB. Operating schedule (everyday) is as follows: 0730-0830z, 0900-1030z, 1300-1500z and 1730-1800z. Suggested frequencies are:
CW - 3503, 7003, 10103, 14003, 18073, 21003 and 24893 kHz
SSB - 3795, 7063, 14147, 18133, 21253 and 24953 kHz
QSL via his home callsign, direct or by the bureau. Look for complete details at QRZ.com under 8Q7AK.

16/10 - 22/10 MARQUESAS IS.; TX5SPM (requested call) OC-027
by SP3DOI, SP3CYY, SP9PT, SP9-31029 and FO5QB. They will have three stations and will operate CW, SSB, RTTY and possibly PSK31 on 160-10 metres, with an emphasis on working Europé on the low bands. QSL via SP9PT. The web site for the expedition is at http://fo2009sp.pl/

17/10 - 1/11 SENEGAL; 6V7Q
by F8IJV on his honeymoon. He plans to be active in the CQWW DX SSB Contest. He will try to operate before and after the contest on 160-6 meters, mainly on SSB and the Digital modes. He will be operating from Jean-Francois, 6W7RV, QTH in La Somone. QSL via F8IJV. More details will be forthcoming.

19/10 - 7/11 NIUE; ZK2DL OC-040
by DL2FAG. He plans to operate mainly RTTY, PSK and SSB on 10-80 metres, using a Triple leg multiband and dipoles. After Niue and before Samoa he will be visiting New Zealand's South Island (OC-134) and be active sporadically as ZL4/DL2FAG. QSL via home call. Log searches will be available at www.qsl.net/dl2fag/

19/10 - 17/11 AUSTRALIA; VK7ACG OC-006
from Tasmania by GØWFH. He will operate SSB on 160-10 metres, with a focus on the low bands. QSL via home call, direct or bureau.

19/10 - 26/10 SABLE I.; NØTG/CYØ, WA4DAN/CYØ and AA4VK/CYØ NA-063
They plan to have three complete HF stations, with three verticals, one "strategically placed" yagi and at least one wire antenna, and to operate CW and SSB on 160-10 metres, with an emphasis on Asia. Twenty metres are likely to provide most contacts, and they will try to have two stations (CW and SSB) on that band at the same time. The CY0 Team will provide a CY0 country multiplier to contesters during the CQWW DX SSB Contest weekend. The team plans to operate only one station in the contest and also continue to maintain CW and 30/17/12m operations for those DXers who are not in the contest. QSL for all callsigns via N0TG. The website for the expedition is at http://www.cy0dxpedition.com/

FINAL DRAFT.
Alternate Power Source for QRP radios
By KD9KC

This project began because my wife, Monika, N5NHC, shows dogs, and we often travel to distant places for the shows. The full dog show info is at
http://www.vonbonehenge.com

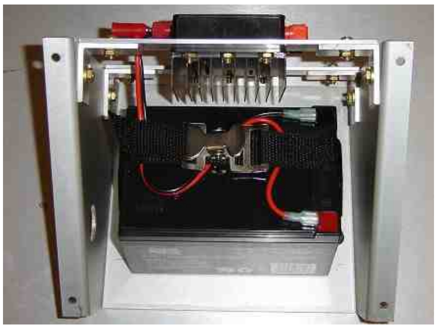
When the show is over, we get to go out exploring or hiking which is what I enjoy. But sometimes the dog show goes on all day long, and I get bored.
So in order to reduce my boredom, she bought me a Yaesu FT-817 QRP radio. I have a wonderful wife! In short order I had a complete portable stationin a brief case. Radio, mic and key, antenna and tuner, balun and feed line, charts and logbook all ready to go.

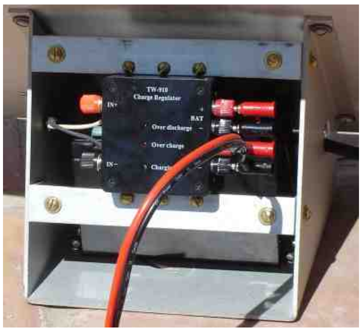
Very quickly I noticed that the internal battery in the Yaesu was only good for an hour or two of steady use so I started investigating alternate power sources. A tip from a friend led me to a local Alarm Companywhere they change out batteries on the alarm systems every year.
A “please” and a smile got me a box full of nice gel-cell batteries in assorted sizes, since they were happy to dispose of the old batteries.
This was better, and I began carrying a 12 V 5 Ah gel-cell along in the briefcase. It was a good battery for a day trip, but not big enough for a 4-day outing. And now I needed a charger too. Shortly thereafter, I got to thinking about Field Day. I would like a power source good enough to power a QRP station for Field Day.

My first step was to decide how much battery I would really need, and I wanted to err on the conservative side. The FT-817 uses about 380 mAh in receive, and about 1.9 Amps in full key-down transmit at 5 watts CW. Considering that CW is 50-% duty cycle, and assuming 40-% transmit and 60-% receive operation, this will average about 600 mA an hour. Using headphones will keep the volume down and save the battery even more.
This means a 7 Ah battery would last most of the night. So I checked the box of Gel-Cells from the Alarm Company, and there were a dozen or more 12 v 7 Ah batteriesin it. There were also a few 12 V 12 Ah gel-cells in there too. Perfect. A 12 Ah battery would certainly last all night. They all tested good, so I picked the best one and put it on the battery reconditioner.

Now I needed to see just how large a solar panel I would need. Solar panels are rated in watts. So, 13.8 x 0.380 = 5.25 watts for RX, and 13.8 x 1.9 = 26.2 watts for TX. Again figuring CW at 50-% duty cycle, and assuming 40-% transmit and 60-% receive operation.
I need at least 14 watt solar panel just to meet the drain on the battery. This would not recharge the battery, but only keep it from draining further. Friend who works for the local gas company has been changing out all the metering stations.
Some of the items being replaced were the batteries and the solar panels, andall the old stuff was getting scrapped. The batteries were 12 V 75 Ah batteries, very large and heavy. The solar panels were 25 watt panels. The panels were a perfect size, and I began assembling my Field Day Alternate Power Source.

This first photo shows a 12-Volt 12-Ah battery mounted inside the solar panel frame. The battery is strapped in using footman's loops and a nylon strap. Double-sided tape is placed on the bottom of the battery to keep it from slipping around. The 14 ga jumper from the battery goes to the charge regulator. The black box with the heat sink above is the solar charge regulator. The open-lead output of the panel is 18 volts. That would cook the battery, so the regulator is necessary.





The next photo is a look at the charge regulator. The solar panel connects to the terminals on the left, and the battery connects to the terminals on the upper-right. The load (radio) connects to the terminals on the lower-right. If you look carefully, you can just make out the green CHARGE LED is lit. The battery is visible tucked in behind and below the charge regulator. The wire from the panel to the regulator is 18 ga. The 15 foot output wire is 12 ga, but anything with banana plugs can be used. The battery weighs just under 8 pounds.

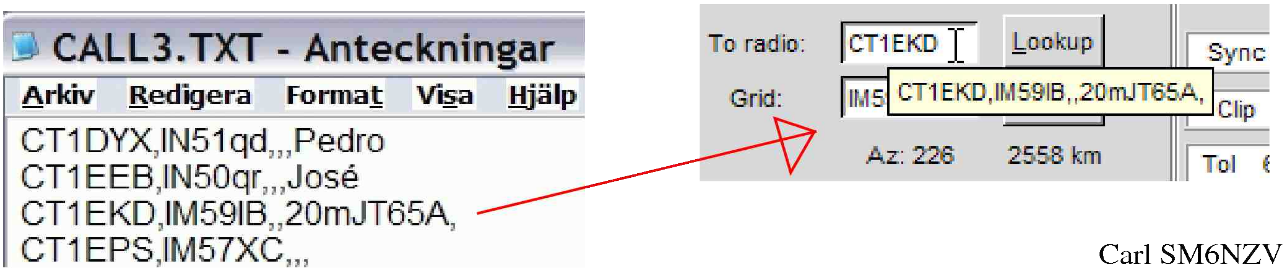
Here is a full-rear view. The 15 foot 12 ga wire to the radio is clearly visible.

This is the front view. The system is set up to float the battery at 13.8 Volts. The battery fully charged sets at about 13.4 Volts.
After a few minutes in the sunlight the Charge Regulator started pulsing on and off and the green CHARGE and the red OVERCHARGE LEDs were alternating on and off as it charged and bypassed. When I snapped the photo the voltage was at 13.54 Volts. It would jump between 13.8 and 13.4 on and off.

Thanks to friends and scrounging, I have only put about $30 into this project. The complete package weighs 24 pounds. Not backpack portable, but surely not too much for camping, field day, dog shows, etc etc.....
This is really a simple project, but I will be glad to answer any questions. E-mail me at my QRZ.com e-mail address.
Vy73. Mike - KD9KC.
El Paso, Texas. USA.

KEEP TRACK OF YOUR WSJT QSOs

Yes, I do have a computerized DX logg, it is a spreadsheet with all my QSOs. It workes fine for me , but an even faster way than checking for a callsign in this spreadsheet is to use the Call3.txt file within WSJT. And it is quite simple, I just add the band and the mode at the end of the row with the callsign. Of course, if the callsign is not in the file I must add it first. When I want to know if I have already met a certain callsign I either enter it in the To Radio box or doubleclick on it in the decoded text window and then place the cursor over the callsign. And there the information is!



CT1DYX,IN51qd,,,Pedro
CT1EEB,IN50qr,,,José
CT1EKD,IM59IB,,20mJT65A,
CT1EPS,IM57XC,,,

To radio: CT1EKD
Grid: IM5
CT1EKD,IM59IB,,20mJT65A,
Az: 226
2558 km

Carl SM6NZV

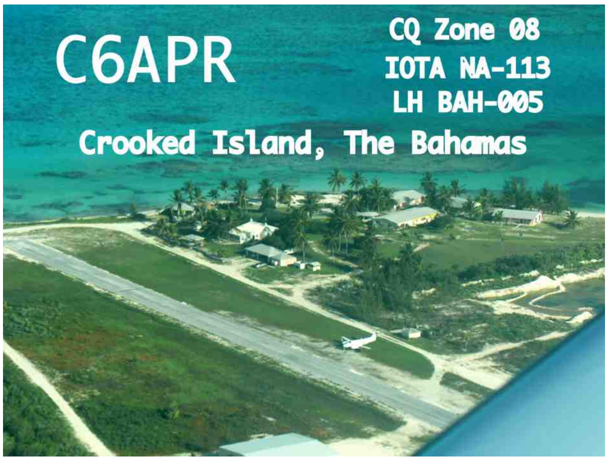
C6APR - Again Pete,W2GJ; Ed, K3IXD; Dallas, W3PP; and Randy, K4QO will operate in the Multi-Operator, Two Transmitters (M/2) Class in the CQ WW SSB contest from the Crooked Island Lodge (Grid FL22), Crooked Island, The Bahamas. The team will be active from 22 October thru 26 October.

Before and after the contest look for C6AQO on HF CW and SSB, and C6AXD on HF RTTY. Both C6AQO and C6AXD will be on 160m thru 10m including the WARC bands.

All the QSOs are good for IOTA NA-113 and ARLHS light house BAH-005.

All QSLs via K3IXD.

73, Ed
K3IXD



Hi all ! I am happy to report that 220 mhz is comming back to ottawa here we now have about 30 hams on the band including myself ve3skp with a adi rig works great and a 4 el beam which get the same range as 2 meters i the thing that upsets me is the fact icom/yaesu/kenwood put next to few radios with 220 mhz on them. I think its about time they started to remake radios including 220 mhz on them such as the ts 2000 when you look at this rig it has all bands on it but not the 220 mhz so its not realy a all band radio is!

so if they did put 220 mhz in it would be all band i know i have the kenwood ts 200x model which you can rec 220 mhz so come on guys get on 220 mhz its a great band! if any of you out the have any thoughts on this?

73 from VE3SKP, steve in ottawa

Welcome to the

Mongolian DX Contest - 2009

The Mongolian Amateur Radio Society (MARS) promotes and organizes the “Mongolian DX Contest”. MARS has the honor to invite all Licensed Amateurs and SWLs throughout the World to participate the annual "Mongolian DX Contest.

Purpose of contest

- The objective of the contest is to establish as many contacts as possible between Radio Amateurs around the World and Radio Amateurs of Mongolia.

Contest period: Third weekend of the November (21/22) / Time: Saturday 00:00 UTC – Sunday 23:59 (24 hours)

Contest Mode: CW SSB RTTY

All participants must enter the contest only one of the category above. However, participants who entered by different mode shall submit separate log for each mode.

Bands: 160-10 meter (no WARC, no cross bands)

Categories: SOMB-CW-LP* - SOMB-SSB-LP - SOMB-RTTY-LP - SOMB-CW-HP* -SOMB-SSB-HP - SOMB-RTTY-HP - MOST-Mixed-HP - SWL-AB-Mixed

LP: Less than 100 W - HP: Must not exceed the power in the regulations Governing the Licence of the station.

Contest call: CQ JT TEST Number exchange: RST report plus CQ Zone

Work stations: Every station can be contacted once per band and mode.

Points: QSO with own country 1 point - QSO between JT stations 0 point - QSO with a different country on your continent 2 points - QSO with another continent 3 points - SWL One way QSO reception 1 point - Two way QSO receptions 3 points

Multipliers: A multiplier one for each different DXCC Country (Except JT) contacted on each band - A multiplier one for each different JT station contacted one each band

Final scores: The final score is the results of the total QSO points multiplied by the sum of DXCC countries and JT stations on all bands.

Awards: A special plaque will be issued for the winners of first, second and third places of each category.

Logs: Deadline is December 31, 2009

- Electronic logs should be submitted via email to jtdxcontest@gmail.com
- Paper logs send to

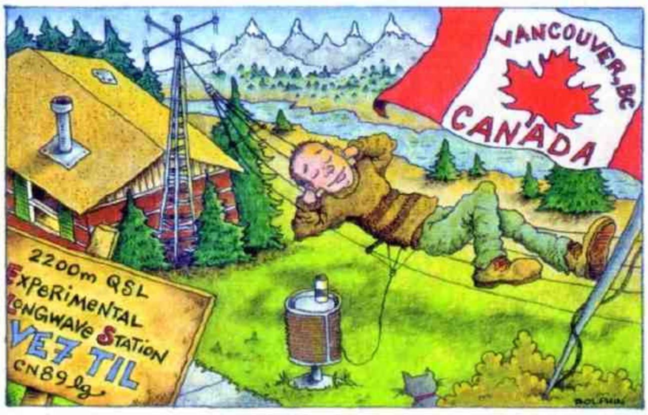
Mongolian DX Contest
P.O. Box 830,
Ulaanbaatar-24,
Mongolia

COMIC'S HAM

Have some fun

SPECIAL HOLIDAYS

THE QSL OF THE MONTH



HAM-MAG

October 2009

[N.9]

F5SLD's Free HAM radio magazine

Discover
the New Design
of
HAM-MAG !

HH7 - HAÏTI STORY

BOY SCOUTS OF AMERICA
52nd
jamboree
on the air
OCTOBER 17-18 · 2009

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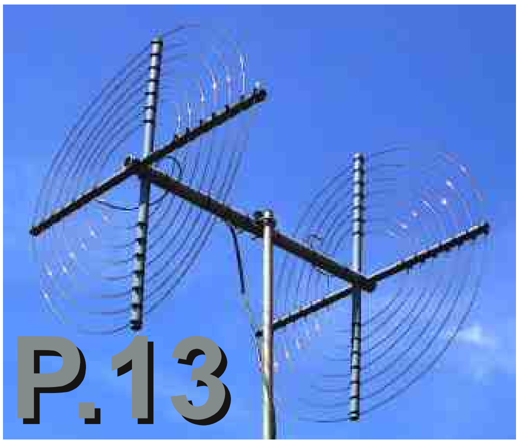

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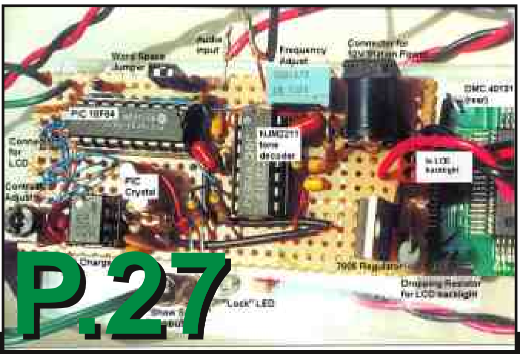

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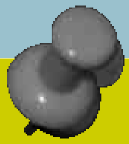
Buy a new Amplifier !

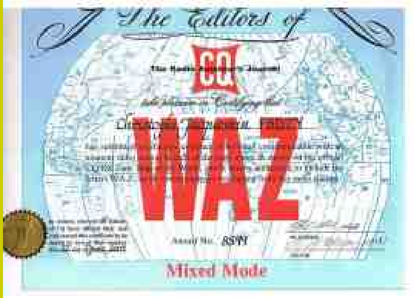
The Breaking NEWS



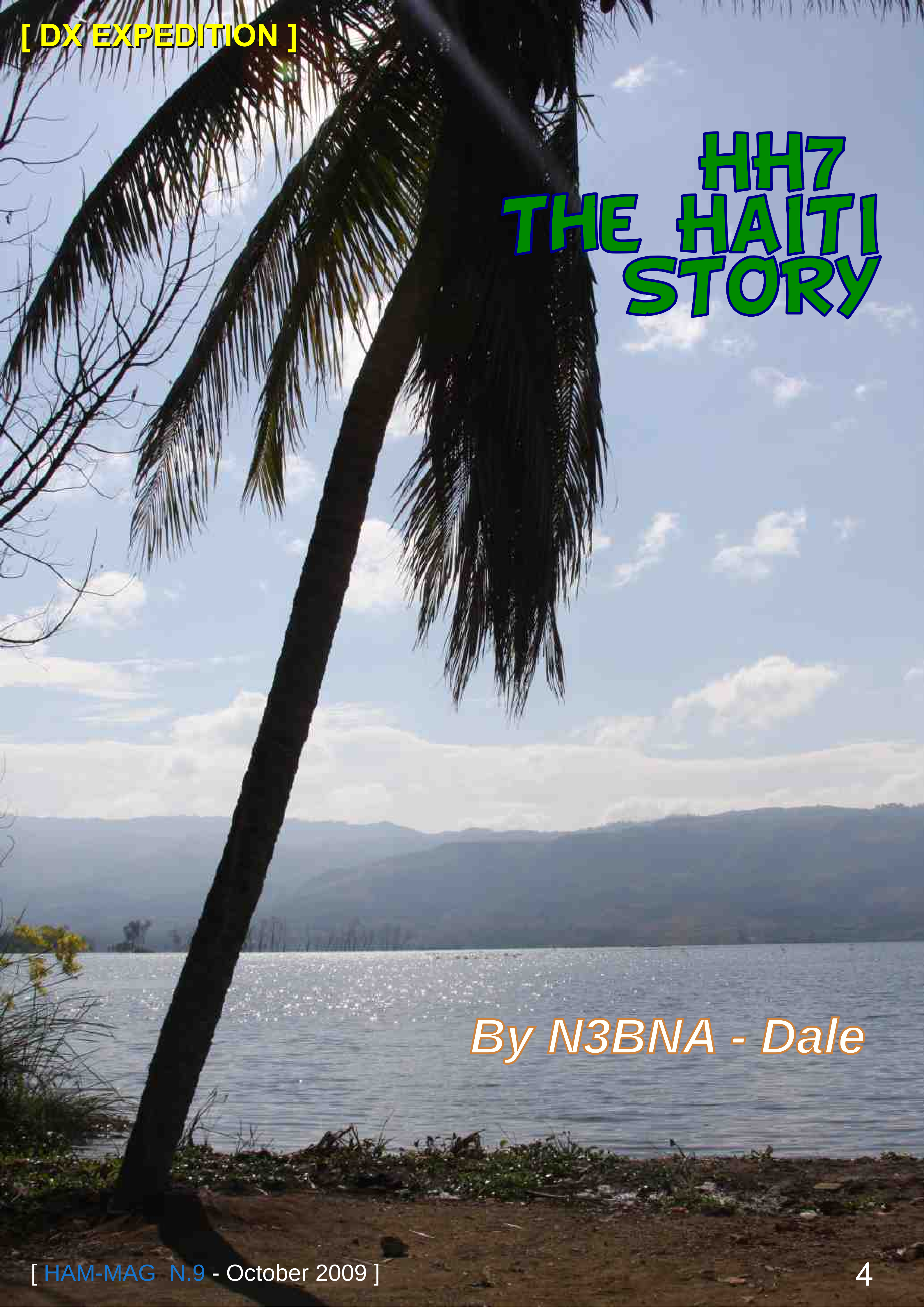
* ***N1MM Contest Logger Update Version 9.9.6***
http://www.pi4dec.nl/n1mm/RevisionHistory.htm

* ***D-Star frequencies in the Netherlands***
Abraham van den Berg, PB0AOK - VERON's VHF manager, has clarified the D-Star issue in the Netherlands. VERON is the Dutch IARU society. It is untrue that the Dutch administration is thinking about D-Star repeaters operating in the 437-438 MHz band. Presently, the amateur service in the Netherlands and neighbouring countries suffers from harmful interference, caused by what can be seen as a regrettable implementation of the Radiolocation service in the 438-440 MHz band. For that reason, usage of D-Star repeaters with output frequencies in the upper 2 MHz part of the Region 1 70cm band, is hampered.
To solve this problem, recently the Dutch D-Star community came up with a proposal to plan the output frequencies of D-Star repeaters just below 438MHz and has asked VERON to support this proposal. VERON has decided not to do so, due to incompatibility between the amateur service and amateur-satellite service. Moreover, the proposal deviates significantly from the IARU-R1 band plan.In the meantime VERON has made an alternative proposition to amend the Dutch national frequency plan in such a way, that it fully complies with article 5 RR, the European Common Allocation table, as well as the IARU-R1 band plan.

* ***CQ announces 75th anniversary Worked All Zones award***
The November, 1934, issue of R/9 magazine announced a new operating award for radio amateurs, designed to encourage the growing popularity of contacting stations across the globe, what we know today as DXing. The award was called Worked All Zones and was to be granted for making confirmed contacts with hams in each of the 40 zones into which the world had been divided by R/9's editors. Today, 75 years later, R/9 has been succeeded by CQ magazine and WAZ - Worked All Zones - sponsored by CQ since 1945, continues to be one of amateur radio's most prestigious operating awards. In celebration of the WAZ's 75th anniversary, CQ magazine is announcing a limited-term "Diamond Jubilee WAZ" award. A special certificate will be issued to amateurs who make contacts in all 40 CQ Zones of the World between November 1, 2009 and December 31, 2010. Certificates will be numbered but there will be no endorsements. Confirmations will not be required. However, it is expected that applicants will continue to uphold amateur radio's long-standing tradition of honesty and self-regulation. Standard WAZ application fees will apply.Complete details on the Diamond Jubilee WAZ Award will be in the October 2009 issue of CQ, and are posted on the CQ website, www.cq-amateur-radio.com, with a link from the October issue highlights page.WAZ is the second-oldest amateur radio operating award still offered today. The only current award that is older is the International Amateur Radio Union's Worked All Continents award. The ARRL's DX Century Club (DXCC) award was introduced in 1936. To date, more than 8,600 basic WAZ awards have been issued.


The Editors of
CQ
WAZ
Mixed Mode

More information on the WAZ award program is available on the CQ website at www.cq-amateur-radio.com/awards.html



HH7
THE HAITI STORY

By N3BNA - Dale

WHAT TO DO WHEN EVERYTHING GOES WRONG? …

Keep Trying.

In late 2006 I committed to going on a February 2007 worktrip to Haiti. I later realized it would coincide with the ARRL-CW contest…That's when I got really excited. Then I was invited to go to visit my friends in Paraguay…could I somehow do both? After a lot of scheduling, I was able to fit it in. Paraguay was wonderful, beautiful and quite modern country with good infrastructure, and I operated from the superstation of ZP5AZL/ZP0R.

Then I went to Haiti. I had prepared for everything, because I have often gone on dxpeditions to remote spots on the globe. But first of all, I was traveling with a work group. Our work project was to replace the baseplate and insulator of a 240 foot broadcast tower. With only hand tools and no electricity, we jacked up the old rusty tower. This was truly crazy and this would never be attempted by tower engineers. Fortunately we were not engineers and were desperate enough to try such an impossible task. (You can find photo and additional details of this crazy tower project here)

Because of our workload we did not get back until after dark every night and I had no time to erect antennas. Finally I had a few daylight hours, and nothing went right…Trees were in wrong places, Ropes tore, insulators caught in other trees, antenna too long, and very frustrating, finally after dark I threw an old 40m dipole over a low palm tree and finally I was on….or so I thought. After working a few, I found that my radio kept sticking in transmit…Just would not work…Next day I took it apart and resoldered the T/R relay to see if I could free it up. No change! I had all the gear for a decent operation in a rare location and my radio didn't work !

After sharing this problem with my local host, he suggested a missionary friend who might have a radio…Later (when the workteam was in transit, we went to visit him, but found only his wife…We went back the next day, the last day before the contest, and John, HH2VA had an old TS50. I was thankful for anything but it was not a contest rig and I had only Icom accessories….What this meant was that my frequency control cable and my keying cable were useless, and I had to send by hand for the whole contest. In addition, my headphones could not work because they had ¼ inch plug, not the 2.5mm plug. This made operating very difficult…BUT I HAD TO TRY.

All this time, I had been wanting to operate from the village, but our project leader was suggesting I stay in the mission compound and operate from the Radio station, which houses a FM station…I had ordered a small generator to come from Port-au Prince, but our leader suggested it would be inconvenient and I should call the guy and tell him not do bring it…I didn't like that idea, and fortunately, we didn't contact him, as I needed a generator later.

I began the contest in the radio station, with a half-square wave antenna for 40 that worked acceptable well on 15m…But when evening arrived I found 10 over 9 local noise. I discovered that there was local line noise that made it very difficult to hear anyone, and my hearing is not very good.

Finally, late Saturday morning, I got good news. The generator had arrived and there was a way to the village. I jumped at the chance, and took a custom made multiband RadioWorks antenna. In the hour before dusk, I used my slingshot to make a perfect cast over a huge mango tree, and a local climber climbed an enormous breadfruit tree, and I had a perfectly erected antenna in short order.

But my operating position was extremely difficult…I was seated outdoors on a low cement step, leaning low over a chair which held my radio, with my only hearing ear cocked toward the speaker… My Heil headphones had a ¼ inch plug and would not fit the TS50, which was dirty and rusty. In addition, my glasses had broken, so I tried to keep them on like monocles, or switch to my shades…At night, I held a flashlight in order to see to enter the callsigns…I was using a very small generator that was a bit testy to run my PS and the old laptop….Unfortunately there were power problems, and my helper tried to wire the PS and car battery in parallel and there was a bang, and that was the end of my PS…Rest of the contest, I was dependent on the car battery, which I had purchased for the project, knowing that I might need it myself. And there were the mosquitos. All the time I was sending by hand. And some guy claimed that I was not sending correctly and other guys (in their comfortable shacks) complained of chirp on my signal. They were absolutely right!
I got to the village with 200 odd contacts and finished the contest with 1176 QSOs…at times I could run, but most of the time it was a slow process grinding out the QSOs. Because so many amateurs chase the callouts, a low power station needs those callouts, and there were well-known contestors who neglected to call me out. I suffered for hours with few callers. It is too bad that people do not listen any more, but just chase the callouts.

Immediately after the contest I made a big effort to work Europe. Monday it was back to work, and I made an effort to be on in the evenings…Again when I tried from town the noise level was high.. So I decided to overnight in the village…The first night was good, but wanted to try 160…Got some good advice from AA1K and WT3Q on the rare lunchbreaks when the shared computer was open. I had asked the local guys to buy me some stuff including 50m of wire, but it was Mardi Gras all week and everything was closed in the town.

So I patched a few pieces of wire together and put up an 80m dipole on the north face of the 240 foot tower…Fortunately I had taken a whole roll of military green rope and about 250 feet of RG8X..I needed it all. That night was my biggest success of the trip…Before nightfall I had to carry all the equipment and the generator about ¼ mile out in the middle of a field of manioc and sweet potatoes, and lots of goats…I was under the huge tower, with my sloping dipole starting at 220 feet…well away from the tower. On 80m with less than 100 watts, I was LOUD !!! I ran to my hearts delight and made a special effort for EU and West Coast stations. Was great fun while it lasted…About 2 AM we got a rain squall…did I mention that we were ¼ mile in the middle of a field? Everything got drenched including the laptop and radio…We ran back to the village and I overnighted in someone elses bed, in a very simple house with no electricity or plumbing. But I could not sleep….and the roosters crowed all night.

Next morning was our last day. Was up early and ready for work…During lunch I returned the TS50 and a broken FT847 that the kind missionary had lent it to me, because I would be leaving at 4:30 AM…Against everyones advice I wanted to go one more night to the village and be LOUD on 160…Had to take down antenna at the station and do all packing and return loaned radios at lunchtime. I decided (sadly) to scavenge my 40m half square to make the 160m dipole…After work, I quickly worked to cut the wire and make several solder joints…Soldering was difficult with little power from the decrepit generator. Had help from some young boys who enjoyed helping…Got the antenna up on the 240- foot tower at nightfall and ready for a great night…Turned on the radio, and at 1811 I heard a SSB signal…then I heard SSB all over the band…I tried calling on CW, but noone could hear me over the ruckus. What a terrible coincidence, my only day on 160 was the first night of the SSB contest. Horrors. Finally I gave up and tried SSB. I worked W4PV, N4PN when he announced he was listening south, and NJ2F who called me along with HI3C on the same island. I could get no run going and could not break the USA din…W3BGN and W4MYA were running stateside…BGN was running fast, and MYA was saying hello to friends…But couldn't break the pileups…worked a few other Carribeans and that was that…Then my radio stuck in transmit again…I tried and tried and could not find a way to make it work…I decided to wait a while, but that did not help…The radio started to go blank screen on transmit…Finally I had to give up, with only a handful of QSOs…My dream to be LOUD on 160 was not to be. But I tried and tried and tried some more…Did I mention that there were mosquitos? Yes there were mosquitos…

And then there was the 35 minute riding shotgun on a decrepit motorcycle with bad transmission and almost no brakes (not to mention suspension) over incredible rutted and bumpy dirt roads at 4:00 AM hanging on to my ham radio gear…I lost all feeling in my one arm from the bag I was carrying on my shoulder, but just gritted my teeth and finally we got there….There was no time for a shower, but I had taken a "bucket bath" in the village…A real experience for those of you who have never done it…I am not as limber as I used to be when I did that in Africa years ago.

Finally we made a mad dash for the airport and waited 30 minutes for the guard to open the gate…I felt very sad leaving Haiti. It had been difficult but I met some wonderful people and I saw that Haiti is a beautiful place, despite the problems that it is having. I left behind lots of equipment and tools for the radio station and local technician…and I left a 160m dipole sloping down from 240 feet on the big tower…If only I could have stayed longer…

The one thing I learned is that it is incredibly difficult when everything is uncertain…You cannot depend on what will happen next and everything seems to fail…But I know I did my best, and I know I was a new one for some guys. And made a couple points for the my club. And most of all, I thank God for that our work project was a success. We repaired the base of a 240 foot tower, by jacking up the tower. It was a lot of work with only hand tools, and rather dangerous project, But it was wonderful to experience success in such an 'impossible" project. I will remember Haiti always, and already I am anxious to go back.

73's from N3BNA !

52nd Jamboree-on-the-Air

OCTOBER 17–18, 2009

By KA6KBC, Bill

What Is Jamboree-on-the-Air?

The Jamboree-on-the-Air, or JOTA, is an annual Scouting and amateur radio event sponsored by the World Scout Bureau of the World Organization of the Scout Movement. Thousands of amateur radio stations around the world participate. If the conditions are right, it is common to contact a hundred Scouting countries during the weekend.

In the United States, Cub Scout dens and Boy Scout patrols visit a local amateur's ham shack during JOTA. Many districts and councils hold events that coincide with JOTA, where amateurs set up stations giving Scouts and leaders a chance to exchange greetings with Scouts from other areas.

The exchanges typically include information such as

- Name
- Location (QTH)
- Scout rank
- Hobbies
- Age

Some exchanges lead to long-lasting friendships and the exchange of photos, badges, pins, and patches. The usual communications method calls for speaking into a microphone. However, the following specialized communications are also used during JOTA:

- Slow Scan TV, or SSTV
- Amateur TV, or ATV
- Orbiting Satellite Carrying Amateur Radio, or OSCAR
- Packet radio, or modem communication without a phone—PSK-31
- Radio Teletype, or RTTY
- Earth-Moon-Earth, or EME, contacts
- EchoLink

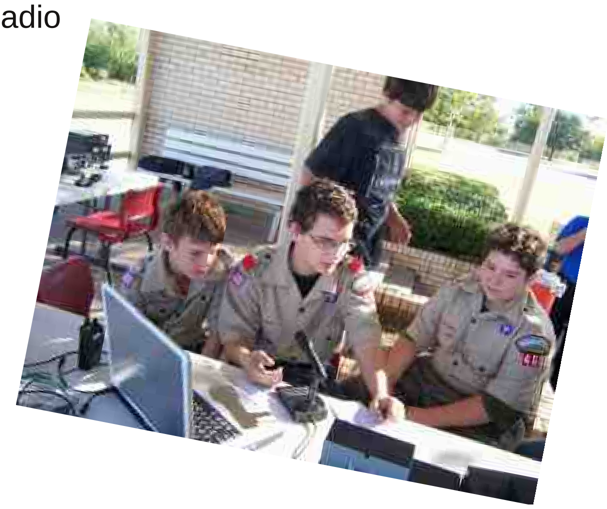
There will be many stations operating, including the following:

- K2BSA/5 at National Scouting Museum in Irving, Texas
- Additional K2BSA stations assigned to other areas, such as K2BSA/0, 2BSA/1,etc.
- HB95, the World Scout Bureau headquarters in Switzerland
- GB2GP at Gilwell Park, England

Listen for other special call signs from many countries.

Who JOTA welcomes participation by Scouting and amateur radio enthusiasts of all ages:

- Cub Scouts
- Boy Scouts
- Venturers
- Brownie Scouts
- Girl Scouts
- Former Scouts and Scouters
- Amateur radio operators
- Anyone interested in doing a Good



Turn for Scouting and amateur radio When:

JOTA always falls on the third full weekend in October.

JOTA will begin on Saturday, October 17, 2009, at 00:01 hours local time, and end on Sunday, October, 18, 2009, at 23:59 hours local time.

WHERE:

JOTA Scout Frequencies

Band	SSB (phone)	C W (Morse code)
80-meter	3.690* and 3.940 MHz	3.570 MHz
40-meter	7.090* and 7.190 MHz	7.030 MHz
20-meter	14.290 MHz	14.060 MHz
17-meter	18.140 MHz	18.080 MHz
15-meter	21.360 MHz	21.140 MHz
12-meter	24.960 MHz	24.910 MHz
10-meter	28.390 MHz	28.190 MHz
6-meter	50.160 MHz	50-160 MHz

* Not authorized to transmit in the United States (Region 2); however, you may listen

Note: Remember that others use these frequencies, so move off the listed frequency if another group is operating there. Always be courteous; others will find you.

HOW:

Scouts and leaders should follow some of the following tips for help in preparing for participation in the JOTA program:

- Contact a local amateur radio operator.
- Contact a local amateur radio club.
- Put a notice in the local newspaper.
- Run an article in the local council newsletter; almost every local council has a Scouter involved in amateur radio.
- Contact the American Radio Relay League's Field and Educational Activities Department toll free at 800-326-3942; or visit the ARRL Web site: http://www.arrl.org/ead/jota.html.
- Request the More About Jamboree-on-the-Air (JOTA) guide from the International Department at Boy Scouts of America, International Department S221, 1325 West Walnut Hill Lane, P.O. Box 152079, Irving, TX 75015-2079.

Radio amateurs should

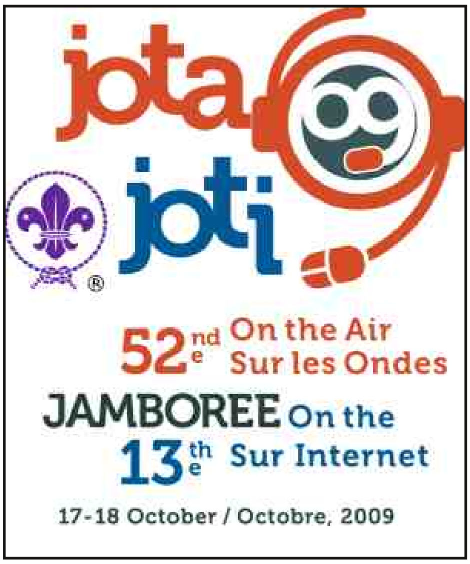
- Invite Scouts and Scout units to their radio shack.

Radio amateurs who do not know any units should contact the nearest BSA local council service center for the names of Scout unit leaders in the area. Local councils can be found in the phone book under "Boy Scouts of America."

- Volunteer to set up a station at a district or council camporee, Scout show, or other event. Contact the nearest BSA local council service center for more information.
- Call "CQ Jamboree," or respond to such calls.
- K2BSA/? is available throughout the year for organized Scout events. K2BSA/? may be available for use during JOTA. Contact Ray Moyer for details by e-mail at ray.moyer@sbcglobal.net, or by mail at Boy Scouts of America, Ray Moyer, c/o International, S221, 1325 West Walnut Hill Lane, P.O. Box 152079, Irving, TX 75015-0279.

Please make plans early to reserve K2BSA/? for your event. Share this fact sheet and a copy of More About Jamboreeon-the-Air (request this publication from the International Department) with other radio amateurs and radio clubs.

What Is or Is Not Required



- No reports in the form of logs are necessary. (This is not a contest.)
- Make the exchange of information simple, related to Scouting and amateur radio.
- Brief reports are requested. See the sample report Format on this fact sheet.

This report should include:
—Unit number and local council name and number
—Amateur call used
—Calls heard and worked
—Number of participants
—Interesting incidents and exchanges, etc.
— Photos with captions (small group, uniformed Scout at mike)

JOTA CONTACT CARDS

These cards are free and are available to anyone participating. They may be ordered beforehand for recording contacts talked to or heard during JOTA, or they may be awarded at Scouting or amateur radio club meetings later. Send requests (specifying the number of cards needed) to Boy Scouts of America, Jamboree-on-the-Air, S221, 1325 West Walnut Hill Lane, P.O. Box 152079, Irving, TX 75015-2079.

POCKET PATCHES

Temporary insignia to wear on the right pocket of the Scout uniform or on jackets/vests will be available after August 1 for $4 each (total). This insignia, like the contact cards, will be available in LIMITED QUANTITY only and will not be reordered when supplies are exhausted.

ORDER EARLY. Allow FOUR weeks for delivery on all orders. Checks or money orders will be accepted and must be made payable to the Boy Scouts of America. Credit cards are also accepted. We cannot accept cash for payment. Orders for patches are to be sent to the same address as for the cards.

JOTA REPORT

The JOTA report on the following pages is very important in working on the next JOTA event. Your combined information will be forwarded to the World Scout Bureau and will be used to improve the overall event. Include anything that was funny, interesting, or learned, along with your ideas or suggestions to help improve the event. If you include pictures, put them on a disk using JPG format so they can be forwarded with the report. Make sure you have the full names of all those in the picture. Scouts in uniform would be really great. Please provide anything that would be of interest to others. An example of a story: “The snow was two feet deep but we drank hot chocolate and talked to Scouts from New-Zealand.

They had just gotten back from swimming.”

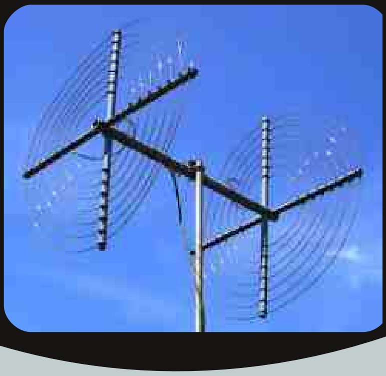
http://www.scouting.org/filestore/intl/pdf/130-218.pdf

73's from KA6KBC

[ANTENNA]

HomeBrewed
40 Meter TAK-tenna

By KA6KBC, bill



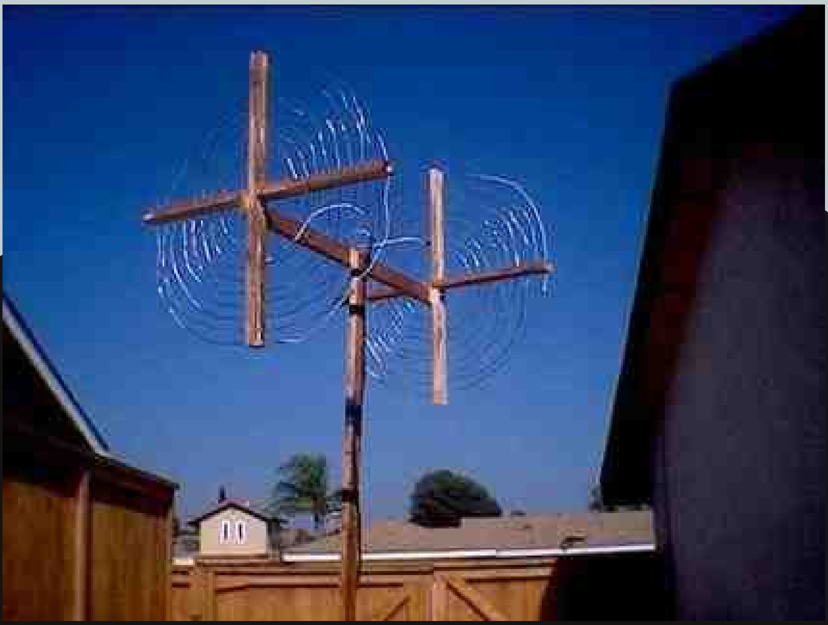
Project Overview:

So I've been reading about this Small Space antenna that is being sold as the TAK-Tenna. Really neat idea - Has a 30 inch boom and Spiral Coils on the ends. See a picture at http://www.taktenna.com/

Looks easy to build -- Right?
So I Built my version out of wood - Mine is very ugly as compared to the store bought one (See Picture).

Materials and Tools • Parts:

1.) 3 - Wooden sections - 1 1/2 in X 1/2 in X 8 ft - Cost 92 Cents each - Home Depot
2.) 1 - 100' Spool of Steel Guide/fence Wire - Cost - $7 - Home Depot - The purchased version uses some type of "Special" patented wire, but this seemed fine. I tried Copper, but it was not stiff enough to make the Spiral Coils. Again from quick test it did not seem critical - From what I read larger gauge wire is better for improved band width.
3.) 1 - 25 foot RG8 coax with PL259 - Radio Shack - Close Out - $5
4.) 2 - Packages - Nuts/Bolts - $2 - Home Depot
5.) 2 - Alligator Clips - Free from my junk Box.
6.) Few Feet of Electrical Tape - Free from my junk Box.
Total Material Cost: $16.76
The commercial version uses PVC and tie wraps, which would have been much easier.



Tools:

a.) Saw - I just used a simple hand saw.
b.) Drill with wood bits - I just used a simple hand electric drill.
c.) Flat Screw Driver and Rubber Mallet.
d.) Wire Cutters.
e.) Gloves and Eye Protection.

Fab Time:
For my version was about 4 hours - Drilling Lots of Holes and feeding the wire in to make the Spiral Coils was most of the work.

Testing:

However -- Test wise it isn't bad I got it tuned up on 40 meters at about 8 feet off the ground and it has an SWR 1:2 to 1:5 from 7.30 to 7.175 MHZ (Without a Transmatch). Also does ok on 15 meter - Tune up wise. Bad news the performance is not Great - Signal pick up is several S units below my Dipole, but it does work. From what I have read the Antenna has problems in that most of the performance is based on feedline radiation (See the links below):
http://lists.conting.com/archives//html/Towertalk/2008-04/msg00339.html
http://groups.google.ie/group/rec.radio.amateur.antenna/browse_thread/thread/167fb7a34305cf3e

Summary of Results:

I'm still testing and it was an interesting experiment. The Antenna fits into a small space 25 inch X 30 inch. Hey it works. If you have no space it might be worth $20 and a few hours of your time or If you aren't a Homebrewer Buy one. If you make your own one point - I needed more wire than the 468/7.2 MHZ = 65 Feet Total or 32.5 Feet per side - I had to add wire after the fact. So I would make it about 33.5 per side.

Measurements:

One more added item - Someone had a question about my dimensions: Boom = 30 inches meaning Cross Pieces are about 30 inches a part. Cross Pieces = 25 Inches Across or 12.5 Inches from center Hole Spacing from Center, but this did not seem critical, but I used: 12 in 11 in 10 in 9 in 8 in 7 in 6 in 5 in 4 in 3 in Total Turns = 10

Tuning:

a.) Put the antenna in the expected operating position (Mine was about 8 feet in the air).
b.) Connect the Coax via the Alligator Clips about 2 inches from the end of the smallest inner Spiral Coils.
c.) Measure SWR in the Center of the 40 Meter Band (SSB or CW) you intend to use most. If the SWR is too high move to Step d.
d.) Move the Alligator Clips/Coax out evenly about 2 inches on each Spiral Coil.
e.) Repeat Step c.

I was able to achieve acceptable SWR after about 3 cycles of adjustment without a Transmatch.

Construction Steps:

a.) Measure/Cut - (1) - 30 inch boom section.
b.) Measure/Cut (4) - Cross members - 25 inches sections.
c.) Measure/Notch @ about 12.5 Inches - I just cut with a hand saw then tapped out with a Flat Screw Driver and Rubber Mallet.
d.) Drill holes in Cross members as noted above - Starting 3 inches from center then working out in 1 inch steps out to 12 inches. If you are careful you can save sometime by drilling two parts at a time.
e.) Here is the Hard part - Put the Notched Cross members together then start feeding the wire to create the Spiral Coils. I started from the biggest to the smallest. I would recommend Gloves and Eye Protection.
f.) Once the Spiral Coils are completed bolt them to the Boom.
g.) I then used the last section of wood for mast and bolted the Boom to this part.

Credit Where Credit is Due:
Very important work on this orignial Design was done first by: Bill Petlowany, K6NO
http://www.qsl.net/wa2lqo/nlaug03.html

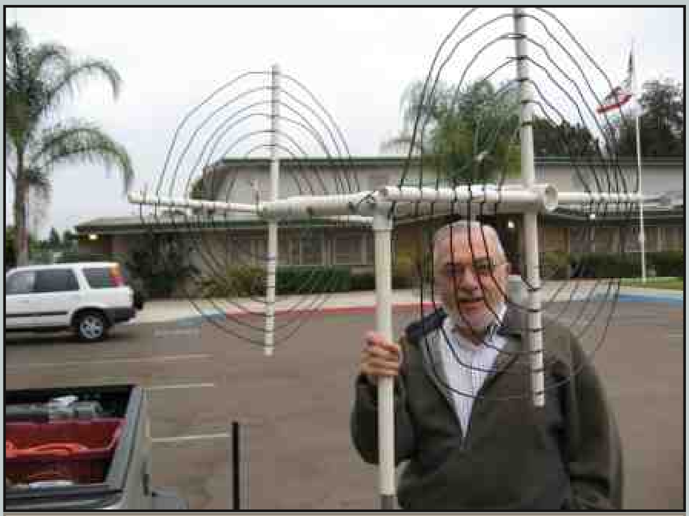
Older Patent Info (Same Last Name, but no relation):
http://bvarc.freeshell.org/newsletter/BVARC_December_2007.pdf
http://www.google.com/patents?id=aZluAAAAEBAJ&printsec=abstract&zoom=4&dq=3432858#PPA1,M1

Then Refined by: Steve -- WA2TAK
http://www.tak-tenna.com/

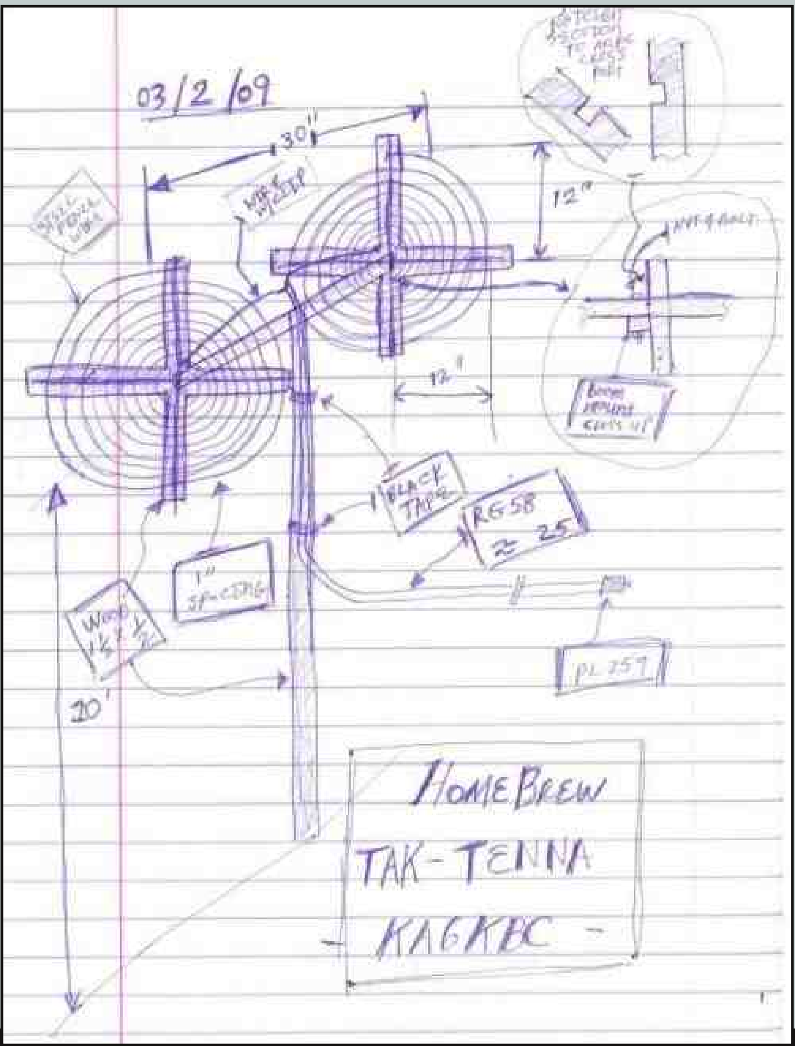
Also some very interesting Recent work from WBillJohnson - Looking at Boom Lengths and Coils Spacing:
http://wbilljohnson.com/zmvantenna/zmvantenna.htm#intro

My latest work/updates:
http://billbrwn.tripod.com/id3.html

73 Bill -- KA6KBC

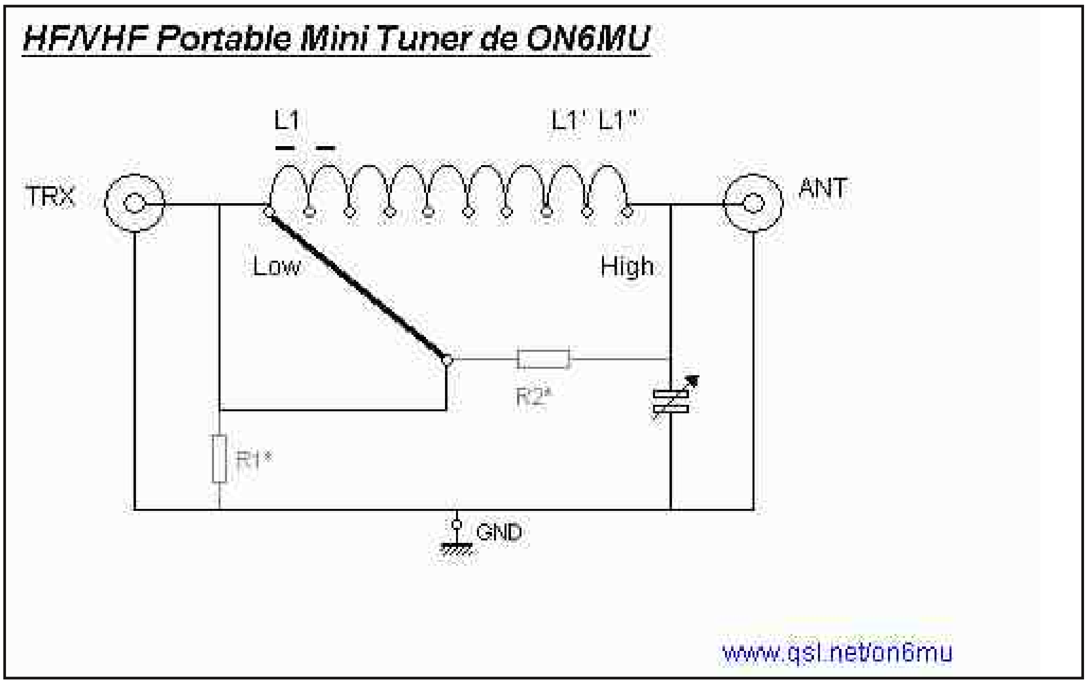


Ken KI6RHR with Homebrewed Tak Tenna



HF/VHF Portable Mini Tuner

By ON6MU



Parts list

alu box of 70mm X 40mm X 33mm
2 female PL 259 chassis
C1 = variable capacitor of at least 300pF or better 500 pF
S1 = 10 or more position rotary switch
L1 = 0,7mm insulated copper wire, 6 turns par connection closely together, 9mm outside diameter (8mm inside) taps every 6 turns and the last two sections (L1' and L1") 4 turns spaced at 1mm and 3turns spaced by 2 mm.

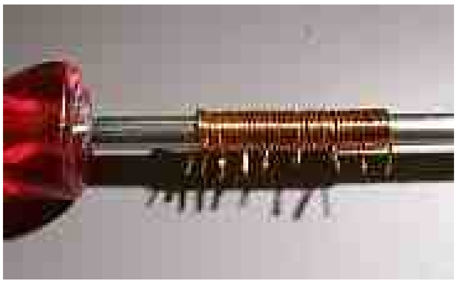
The first two sections has a ferrite core inside. Could be that lower frequencies needs higher inductance, experiment with by adding a core in the last few sections (see fig2)

I added two bolts on the alu-box chassis to - if needed - connect the tuner to ground or for using a counterpoise.

R1: 1.5k carbon 1/4w; optional to allow drain of possible static build-up on the antenna (or use a 10mH inductor)

R2: 2 x 470 carbon 1/2w parallel; optional to have some little protection during switching when using a carier, as the switch could open the the connection for a fraction of a second during switching.

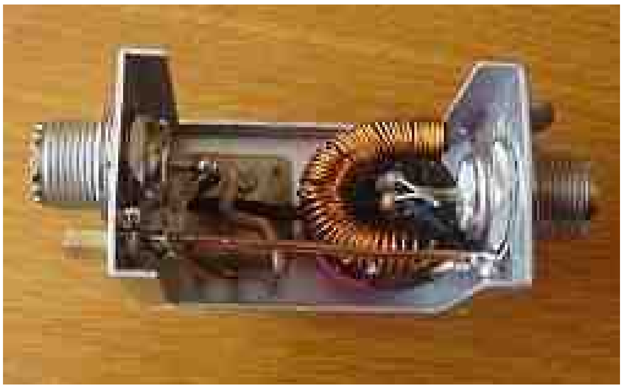
The coil



Wind 6 turns x - 2 connections on your switch (in this project a 10-position rotary switch is used, being 8 times 6 = 48 + 4 + 3 = 55 turns) over a 7mm screwdriver (or simular obkject hi) and make a tap every connection. Solder each tap.

Solder each tap to each connection of your switch and stretch L1' (being 4 turns) at 1mm spacing and L1''(being only 3 turns) at 2 mm spacing. You can replace L1'' by 3 turns of silver wire to allow better Q on higher frequencies (VHF).

***Minituner insides..*.**



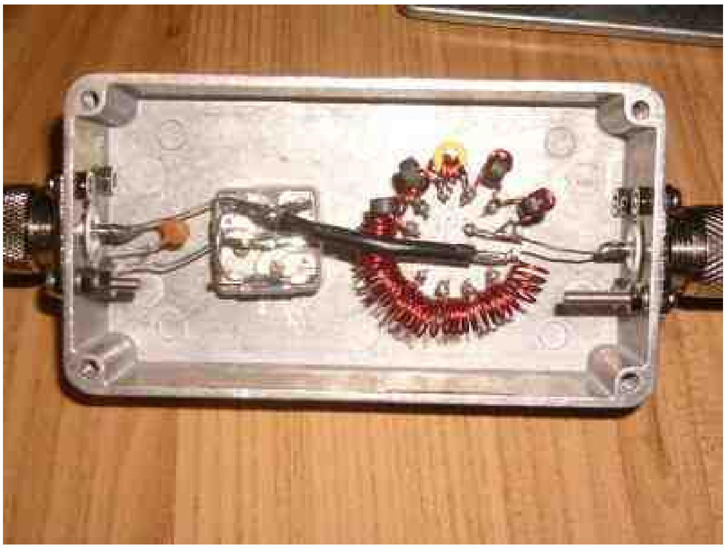


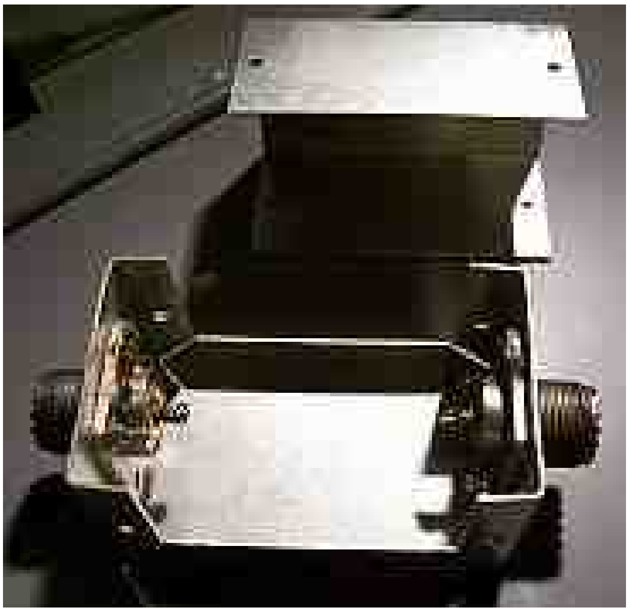
Fig.2

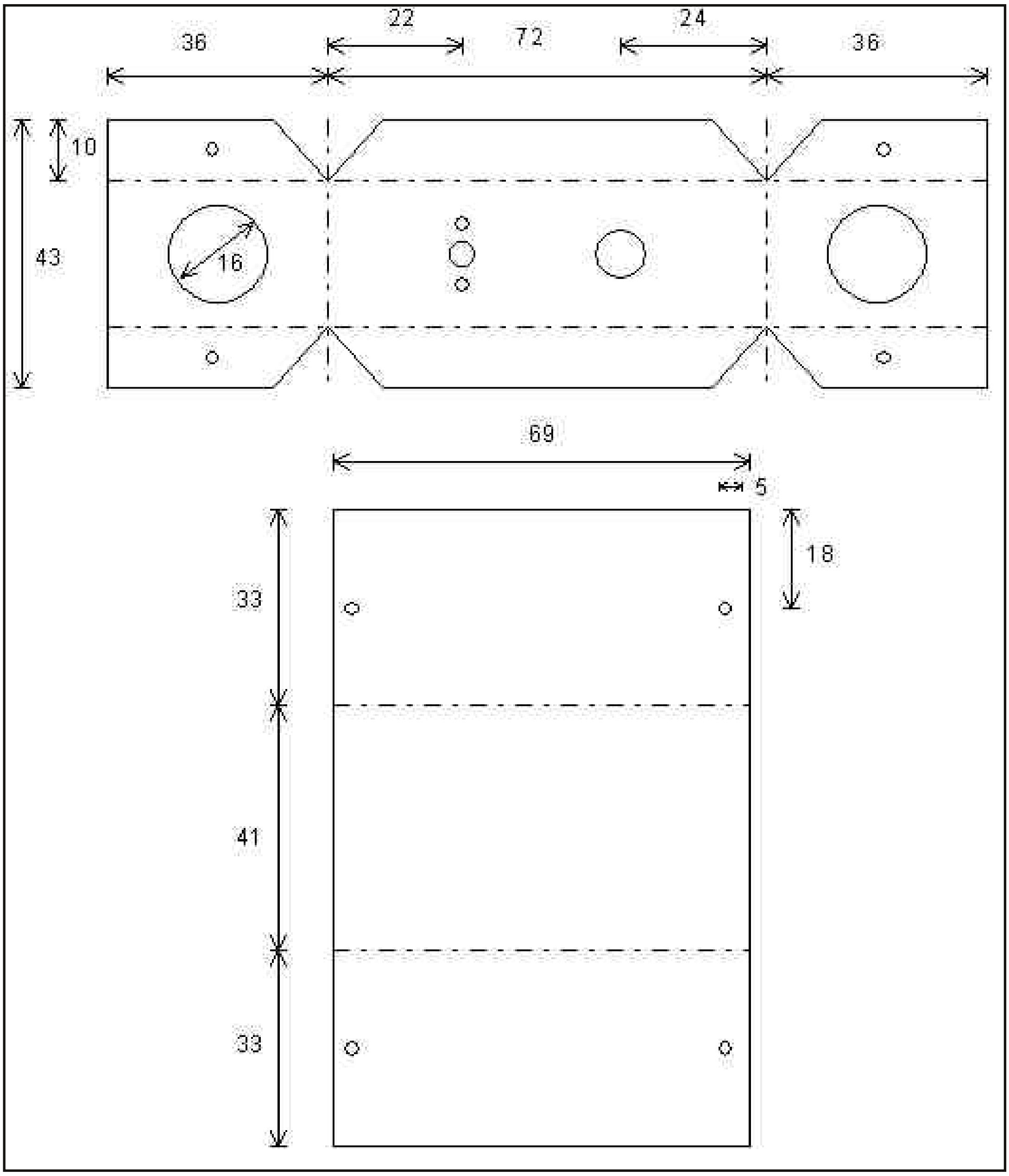
Alex VE7DXW changed 5 of the lower 6 wdg air coils with 1 wdg, 2wdg, 4wdg, 4wdg, 6wdg ferrite core coils, which gives higher L values
Thanks Alex!

Specifications

manual operation
frequency range (depending on the coil min & max inductance): 160m...6m
(Up to 150Mc if: L1'' is silver(plated) wire, High Q switch, minimum capacitance of C is small enough and close connections are used in respect to 50 Ohms impedance)
10 Watt +-
direct feed through
small and compact design ideal for low power QRP transceivers, like the Yaesu FT-817, or of course for receivers...
connection for counterpoise/ground
Notes:If you elect to use an antenna tuner, it is extremely important that you understand exactly how to use tuners and what they can and cannot do. A few watts of RF can easily become lost in an incorrectly adjusted antenna matching device. The whole idea of a QRP station is to keep things simple and economical, so I cannot overemphasize the priority of a clean, efficient connection of the amplifier output to a resonant antenna.

Homemade aluminum box





Best 73's ON6MU

The HAM-MAG's HALL OF FAME

This is the list of all the generous donators. Thanks a lot.

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http://www.ham-mag.com
And click on "Help us"

3D2/C, CONWAY REEF (Update)

Jan, DJ8NK, informs us "all is prepared for our DXpedition to Conway Reef (3D20CR), the rigs, antennas and gear are all packed and a pre-shipment by air will leave Hamburg tomorrow (September 15th). The crew will fly out on September 24th, and we plan to start operation on October 1st." The DXpedition is still looking for sponsors. The total amount of the operation is estimated at 64,000 USDs. For details/updates and how to donate funds for this operation, please visit their Web page at:
http://www.conwayreef2009.de

3W, VIETNAM (Update [VERY RARE IOTA - #2])

An international group of operators will be active as 3W6C from Con Co Island (AS-185), Vietnam, in April 10-18th, 2010. This multi-national project, being coordinated by Swiss ham-radio operators, consists of roughly 20 individuals including one woman with members not only from Switzerland but also from Vietnam, Germany, USA and Japan. Operators mentioned as of today: Team Leader Hans-Peter/HB9BXE, Jan/DJ8NK, Hans/HB9BHW, Rene/HB9BQI, Christine/HB9BQW, Markus/HB9DIZ, Hans-Jurg/HB9DKZ, Paul/HB9DST/AA1MI, Leo/HB9DWL, Hans- Peter/HB9EHP, Matthias/HB9JCI, Peter/HB9PJT, Eddy/XV1X and Michal/XV9DX. During their stay, they plan to have 4 stations on the air. Their goal is to make contacts on as many different frequencies as possible, even on the 80 meter and 160 meter bands, which makes this DXpedition very special. But this goal also means that the group must transfer considerable amounts of equipment including radios, antennas, power generators, computers, and various ancillary supplies with them to the island. The team is looking for sponsors (whether individuals, ham-radio clubs or commercial) to help offset the costs. Complete details are available at: http://www.3w6c.qrv.ch

7Q, MALAWI

Barrie, G4AHK, will once again be active as 7Q7BJ between September 23rd and October 12th. Activity will be on all HF bands, mainly CW and SSB. QSL via his home callsign, direct or by the Bureau.

Ely, IN3VZE, informs OPDX that he will be active once again as 7Q7CE from the southwest shore of Lake Malawi from the shack of his good friend Harry, 7Q7HB, between October 2-20th. Activity will be holiday style with planned operations on all bands using SSB and RTTY. QSL via his home callsign, direct or by the Bureau.

9M6, EAST MALAYSIA

Tony, KM0O, will be active as 9M6/KM0O during the CQWW DX CW Contest (November 28-29th) as a Single-Op entry. QSL route TBA.

9M8, EAST MALAYSIA (IOTA Op)

Steve, 9M6DXX, from the Island of Borneo (OC-088) plans to busy from East Malaysia over next two months. Look for Steve to be active as 9M8Z from Sarawak, East Malaysia (OC-088), between October 22-26th. Activity will be SSB only but will also include oper- ations in the CQWW DX SSB Contest (October 24-25th) as a Single-Op/All- Band/High-Power/Unassisted entry. QSL via LoTW, or QSL direct or by the Bureau to M0URX (or request direct or bureau cards on-line info at: http://www.m0urx.com/direct-a-bureau-instructions.html

In early November, Steve/9M6DXX will be joined by John/9M6XRO and the operators will activate Pulau Labuan Island (OC-133) between November 6-8th (and possibly for one or two hours on November 9th after 0000z). The callsigns and operations will be as follows:
9M6DXX/P - On 80-10 meters; SSB only.
9M6XRO/P - On 160-10 meters; CW and RTTY.
QSL both 9M6DXX/P and 9M6XRO/P via M0URX, either direct, by the bureau or LoTW.

A5, BHUTAN

Yasuo, JA1FJJ, will be active as A52FJJ between October 8-20th. Activity will be on 80-10 meters using SSB, RTTY and PSK31. He plans to use 500 watts into a G5RV antenna. QSL via his home callsign, direct or by the Bureau.

C9, MOZAMBIQUE

Marco, IK1RAE, will be active as C91VM between October 5-23rd. Activity will be on 40-10 meters using SSB and running 100 watts into a vertical. Marco plans (if possible) to activate IOTA groups AF-061, AF-066, AF-072 and AF-088. QSL only direct.
PLEASE NOTE: All proceeds will be donated to a charity project in the village of Malangute - check (QRZ.com) for the official QSL info.

EA8, CANARY ISLANDS

Jyrki, OH6CS, will be active as EA8/OH6CS during the CQWW DX SSB Contest (October 24-25th) as a Single-OP/Single-Band (TBA) entry. He will be in the Canary Islands (AF-004) between October 21-27th. QSL via LoTW or to his home callsign direct. Visit his Web site at:
http://personal.inet.fi/cool/sierra/

EF8, CANARY ISLANDS

Val, RD3AF, will be active as EF8M from Santa Maria de Guia, Las Palmas Gran Canaria (AF-004, DIE S-005, WLOTA L 0969) during the CQWW RTTY DX Contest (September 26-27th). QSL via UA3DX.

FO8, FRENCH POLYNESIA (Update)

Phil, F5PHW, who will be in Tahiti for the next two years and active as FO8RZ, has reported that he has installed the 160 meter kit on his HF6V antenna. It is suggested to start looking for him on 160m. Over the past week Phil has been on 40/30/20 meters CW, with some RTTY. QSL via LoTW. QSL is also 'OK' via F8BPN, either direct or via the French Ref-Union Bureau.

JW, SVALBARD

Operators Arne/LA7WCA, Maurits/LA3XIA and John/G4ATA will be active as JW7WCA, JW3ZIA and JW/G4ATA, respectively, between October 8-13th. Activity will be on most bands using SSB and RTTY. QSL via the operator's home callsign.

P4, ARUBA

Marty, W2CG, will once again vacation and operate in Aruba between January 5-26th, 2010. Look for him to use a special callsign, either P40C or P40CG (awaiting approval). Activity will be primarily CW/RTTY on 80-6 meters, usually between 1200-1400z and 2000-2400z, other times as schedule permits. QSL is via the LoTW (prefers), or via his home callsign, by the Bureau or direct (U.S. stations, if not LoTW then SASE via CBA).

VC, CANADA (Special Event)

Look for OPP officer Bob Cooke/VE3BDB and other current or retired uniform or civilian members of the OPP, to activate the special callsign VC3COPP between October 2-31st. Activity is to celebrate the 100th anniversary of the Ontario Provincial Police Force (OPP). Since its formation on October 13, 1909, the OPP has grown to become one of the largest deployed police forces in North America. Activity will be on the HF bands, possibly 6 meters, and using CW and SSB. QSL via VE3BDB only direct. Visit the special VC3COPP Web site at: http://www.qsl.net/ve3bdb/vc3copp.htm

VP2M, MONTSERRAT

Operators Tom/DL2RUM (as VP2MUM), Rudi/DM2XO (as VP2MXO) and 3D20CR op Jan/DJ8NK (as VP2MNK) will operate from Montserrat between November 3-15th. Activity will be on 160-10 meters using CW, SSB and RTTY. QSL via their home callsigns per the QRZ.com address or by the Bureau.

YM, TURKEY

Nick, LZ1NK, will be active from Asian Turkey (Zone 20) as YM3A during both the CQWW DX SSB Contest (October 24-25th) as a Single- Op/Single-Band (40 or 20m) entry and the CQWW DX CW Contest (November 28-29th) as a Single-Op/Single-Band (40m) entry. QSL via LZ1NK.
ADDED NOTE: Look for Nick as TA3/LZ1NK before each contest.

YS4, EL SALVADOR

Operators Gregor/DF7OGO, Tom/K3WT, Ron/N0AT, Vlad/N0STL and Bill/W0OR will be active as YS4U during the CQWW DX CW Contest (November 28-29th) as a Multi-Single entry. QSL via N0AT. Look for activity outside of the contest. Operators will be in YS-land between November 20th and December 1st.

ZF, CAYMAN ISLANDS

Joe, W6VNR, will once again be active as ZF2AH from Grand Cayman Island. Activity will include the CQWW DX SSB Contest (October 24-25th). QSL via his home callsign.

ZM2, NEW ZEALAND

Operators Lee/ZL2AL, Stan/ZL2ST, Peter/ZL2LF, John/ZL2QM, Mike/ZL2CC, Gary/ZL2IFB and Wayne/ZL2WG will be active as ZM2M from Napier, New Zealand (OC-036, also counts for WLOTA LH-0069) for the CQWW DX SSB Contest (October 24-25th), as a Multi-2R entry. QSL via ZL2AL, direct or by the bureau.

CONTESTS OF OCTOBER

Date begin	UTC begin	Date end	UTC end	Contest	Mode
3/10/2009	7:00	3/10/2009	9:59	Deutscher Telegraphie Contest	CW
3/10/2009	0:00	3/10/2009	0:00	TARA PSK31 Rumble	PSK31
3/10/2009	8:00	4/10/2009	8:00	Oceania DX Contest	SSB
3/10/2009	16:00	3/10/2009	19:59	EU Sprint Autumn	SSB
3/10/2009	16:00	3/10/2009	18:00	PRO-CW-Contest (1)*	CW
4/10/2009	6:00	4/10/2009	8:00	PRO-CW-Contest (2)*	CW
4/10/2009	6:00	4/10/2009	10:00	ON Contest 80 Meter	CW
4/10/2009	7:00	4/10/2009	19:00	RSGB 21/28 MHz Contest	SSB/CW
10/10/2009	0:00	10/10/2009	7:59	The Makrothen Contest (1)	RTTY
10/10/2009	8:00	11/10/2009	8:00	Oceania DX Contest	CW
10/10/2009	16:00	10/10/2009	23:59	The Makrothen Contest (2)	RTTY
10/10/2009	16:00	10/10/2009	19:59	EU Sprint Autumn	CW
11/10/2009	8:00	11/10/2009	15:59	The Makrothen Contest (3)	RTTY
11/10/2009	0:00	11/10/2009	4:00	North America Sprint Contest	RTTY
11/10/2009	6:00	11/10/2009	10:00	ON Contest 80 Meters	SSB
17/10/2009	0:00	18/10/2009	0:00	JARTS WW RTTY Contest	RTTY
17/10/2009	15:00	18/10/2009	14:59	Worked All Germany Contest	SSB/CW
19/10/2009	13:00	23/10/2009	23:59	School Club Roundup	CW/SSB
24/10/2009	0:00	25/10/2009	23:59	CQ WW DX Contest	SSB
24/10/2009	0:00	25/10/2009	23:59	VERON SLP Comp.-Part 8 SWL	SSB
24/10/2009	0:00	25/10/2009	23:59	CQ WW SWL Challenge SWL -	SSB

SM3CVM Presents :

SM3CVM DX-kalender

THE DX-CALENDAR
From October 1st to November 11th

1/10 - 29/10 FIJI; 3D2MJ and 3D2KJ OC-016)
from Viti Levu by SP5EAQ and SP5DRH. Activity will be on all bands, but with an emphasis on the lower bands. They plan to use two stations with small amps and vertical antennas. QSL via their home callsigns.

4/10 - 6/10 W. KIRIBATI; T30M and T30W
by YT1AD (T30M) and (T30W) YU1DW planning a Pacific tour in September and October of 2010. More details will be forthcoming at http://www.yt1ad.info/t31/

5/10 - 10/10 CENTRAL KIRIBATI; T31
A multi-national team of 14 operators led YT1AD. Details are expected in due course. Updates will be posted to the expedition's website at http://www.yt1ad.info/t31/index.html

5/10 - 30/10 S. COOK Is; E51NOU OC-013
from Rarotonga Island by N7OU during his spare time. Activity will be on 80-10 meters, CW only, using 100w into a vertical. QSL via N7OU.

6/10 - 8/10 FIJI; 3D2AD and 3D2DW
by YT1AD (3D2AD) and (3D2DW) YU1DW planning a Pacific tour in September and October of 2010. More details will be forthcoming at http://www.yt1ad.info/t31/

9/10 - 19/10 MIDWAY I.; K4M OC-030
After a seven-year hiatus, in late January 2009 the U.S. Fish &
Wildlife Service announced that they would once again allow amateur radio operations from Midway Atoll "on a trial basis". A multi national team will be active for ten days. They will have 5-6 stations active on 160-6 metres, with at least one station on 20m around the clock. Further information, including details on how contribute to this expensive expedition, can be found at http://www.midway2009.com/

10/10 - 18/10 VANUATU; YJ0PX OC-035
Activity from all locations will be mostly CW on all HF bands. QSL via his home callsign, direct or by the Bureau.

10/10 - 27/10 BENIN; TY1MS
from Grand Popo by PA8AD, PA3AN, PA3AWW and PD0CAV including an entry in the CQ WW DX SSB Contest. Their goals are to activate this DXCC Entity on 160-10 metres, to provide onsite help and raise funds for the Mercy Ships Charity Project. QSL via PA3AWW, direct or bureau. Further information (including OQRS for direct QSLling) can be found at http://www.benin2009.com/

11/10 - 25/10 MALDIVES; 8Q7AK AS-013
from Embudu by G7COD. He plans to operate CW and SSB on 80-12 metres (suggested frequencies and operating schedule at http://www.qrz.com/db/8q7ak/
QSL via home call, direct or bureau.

12/10 - 14/10 WALLIS & FUTUNA IS.; FW
A multi-national team of 14 operators led by YT1AD. Details are expected in due course. Updates will be posted to the expedition's website at http://www.yt1ad.info/t31/index.html

12/10 - 25/10 MALDIVES; 8Q7AK AS-013
from Embudu Village, Embudu Island, WLOTA L-3911 by G7COD. Activity will be on 80-12 meters including 30/17/12m using CW and SSB. Operating schedule (everyday) is as follows: 0730-0830z, 0900-1030z, 1300-1500z and 1730-1800z. Suggested frequencies are: CW - 3503, 7003, 10103, 14003, 18073, 21003 and 24893 kHz SSB - 3795, 7063, 14147, 18133, 21253 and 24953 kHz
QSL via his home callsign, direct or by the bureau. Look for complete details at QRZ.com under 8Q7AK.

15/10 - 30/10 SENEGAL; 6W
by F8IJV will be honeymooning at Le Calao, Senegal, He will participate in the CQ WW DX SSB Contest as 6V7Q. He might also be active (SSB and digital modes) before and after the contest. QSL via F8IJV, direct or bureau.

16/10 - 22/10 MARQUESAS IS.; TX5SPM (requested call) OC-027
by SP3DOI, SP3CYY, SP9PT, SP9-31029 and FO5QB. They will have three stations and will operate CW, SSB, RTTY and possibly PSK31 on 160-10 metres, with an emphasis on working Europé on the low bands. QSL via SP9PT. The web site for the expedition is at http://fo2009sp.pl/

17/10 - 18/10 UNITED STATES OF AMERICA; K4L NA-110
from Hunting Island, Beaufort County, South Carolina by KA1DF, KI4ROL, K3LLH, N2EIO, AI4JA and W3HEA. The activity is to commemorate the 150th anniversary of the lighthouse. QSL via K3LLH. An online log will be available after the event. Further information can be found at http://pws.prserv.net/K4L/

17/10 - 1/11 SENEGAL; 6V7Q
by F8IJV on his honeymoon. He plans to be active in the CQWW DX SSB Contest. He will try to operate before and after the contest on 160-6 meters, mainly on SSB and the Digital modes. He will be operating from Jean-Francois, 6W7RV, QTH in La Somone. QSL via F8IJV. More details will be forthcoming.

19/10 - 28/10 ANTIGUA & BARBUDA; V25Z NA-100
from Yepton Estate Cottages, Antigua, by K7ZZ. Activity will be on all bands and modes. QSL via K7ZZ, direct only.

19/10 - 7/11 NIUE; ZK2DL OC-040
by DL2FAG. He plans to operate mainly RTTY, PSK and SSB on 10-80 metres, using a Triple leg multiband and dipoles. After Niue and before Samoa he will be visiting New Zealand's South Island (OC-134) and be active sporadically as ZL4/DL2FAG. QSL via home call. Log searches will be available at www.qsl.net/dl2fag/

19/10 - 17/11 AUSTRALIA; VK7ACG OC-006
from Tasmania by GØWFH. He will operate SSB on 160-10 metres, with a focus on the low bands. QSL via home call, direct or bureau.

21/10 - 26/10 SEYCHELLES; S79MI AF-024
from Praslin Island by HB9ENI CQ WW DX SSB Contest included. He plans to operate SSB and RTTY on the HF bands and 6 metres. QSL via home call, direct or bureau. He will upload his log to LoTW.

19/10 - 26/10 SABLE I.; N0TG/CY0, WA4DAN/CY0 and AA4VK/CY0 NA-063
The Sable Island DXpedition has been postponed. They will leave the website up and updates will be posted as our plans to reschedule the DX-pedition to CY0.
They plan to have three complete HF stations, with three verticals, one "strategically placed" yagi and at least one wire antenna, and to operate CW and SSB on 160-10 metres, with an emphasis on Asia. Twenty metres are likely to provide most contacts, and they will try to have two stations (CW and SSB) on that band at the same time. The CY0 Team will provide a CY0 country multiplier to contesters during the CQWW DX SSB Contest weekend. The team plans to operate only one station in the contest and also continue to maintain CW and 30/17/12m operations for those DXers who are not in the contest. QSL for all callsigns via N0TG. The website for the expedition is at http://www.cy0dxpedition.com/

20/10 - 27/10 ST. PIERRE AND MIQUELON; FP/KV1J NA-032
from Miquelon by KV1J and W8TOM during the CQWW DX SSB Contest. QSL via KV1J, direct, by the Bureau or LoTW. Activity outside of the contest will be on 160-6 meters using CW, SSB, RTTY and PSK31, generally on the highest frequency band that is open (no permission for 60M). Visit Eric's Web page at http://www.kv1j.com/fp/october09.html
20/10 - 30/10 ST. LUCIA; J68JA NA-108
by W5JON. He will use an ICOM IC-7000, KL-400 Amp (350 watts) into the following antennas: Alpha Delta DX-LB and DX-EE Dipoles, and a 3 element yagi on 6m. Activity will also include the CQWW DX SSB Contest (October 24-25th) as a Single-Op/All-Band entry. QSL via W5JON.

21/10 - 28/10 TURKS & CAICOS IS.; VP5/N2VW NA-002
from Providenciales Island by N2VW. His activity will include an entry in the CQWW DX SSB Contest (October 25-26th) possibly using a special callsign. Outside of the contest he will be on all bands (160-6 meters) and modes. QSL via his home callsign.

22/10 - 26/10 BAHAMAS; C6AQO and C6AXD NA-113
from Crooked Island by W2GJ, K3IXD, W3PP and K4QO including the CQ WW SSB contest as C6APR from the Crooked Island Lodge (Grid FL22). Before and after the contest look for C6AQO on HF CW and SSB and C6AXD on HF RTTY. Both C6AQO and C6AXD will be on 160m thru 10m including the WARC bands. All QSLs via K3IXD.

22/10 - 29/10 SURINAME; PZ5M
by AJ9C. His callsign will be announced when it is assigned. He is expected to be active on 160-6 meters using CW, SSB and RTTY, as well as an entry in the CQWW DX SSB Contest (October 24-25th). QSL to his home callsign with SASE/USD(s) for return postage.

22/10 - 31/10 NORFOLK I.; AI5P/VK9N OC-005
Activity from all locations will be mostly CW on all HF bands. QSL via his home callsign, direct or by the Bureau

22/10 - 9/11 PAPUA NEW GUINEA; P2 OC-102, OC-231 and OC-205
G3KHZ (P29NI) has announced a new IOTA DXpedition from the Tanga Islands (OC-102), the Green Islands (OC-231) and the Woodlark Group (OC-205). He and other four operators, CT1AGF, G3USR, G4EDG and SM6CVX) will operate CW, SSB and RTTY on 160-15 metres, using new single band vertical dipoles for 30-15m and a ground plane for 40m.
The announced schedule and callsigns are as follows:
OC-102 - Tanga Island; callsign P29VCX (via SM6CVX); October 22-26th
OC-231 - Green Island; callsign P29VLR (via SM6CVX); October 27-31st
OC-205 - Woodlark Island; callsign P29NI (via G3KHZ); November 2-9th
Further information is expected in due course. The web pages for the expedition are at
http://www.425dxn.org/dxped/p29_2009/index.html

30/10 - 5/11 VANUATU; YJ

by VK2CCC (LY1F). Callsign is to be announced later. Activity will be "part time", but mainly on 160 and 80 meters CW. QSL via VK2CC, by the Bureau or direct.

31/10 - 4/11 GUYANA; 8R1PY

from Lethem, Guyana by members of the "Amateur Brazilian Team". Activity will be on 160-6 meters, including 30/17/12 meters, using CW, SSB, RTTY and PSK31. Operators mentioned are PU8TEP, PV8AZ, PV8DX, PV8IG, PY1YB, PY2TNT and PY2WAS. QSL via PY2WAS.

31/10 - 15/11 EASTER I.; XR0Y SA-001

by a six team members with Europe as main target running for almost two weeks. They plan to focus on 160, 80, 40 and above all 30 metres (CW only, as digital modes on 30m are not allowed). Working Europe on 30 metres will be their priority during the first week on the island. XR0YA will have three stations with two amplifiers and several antennas. Although SSB will not be neglected, CW will be the main operating mode, with some RTTY being planned as well. QSL route TBA. Further information can be found on the expedtion's web site http://rapanui2009.org/

2/11 - 9/11 UNITED STATES OF AMEICA: KG8DP NA-062

from Grassey Key. Operations will be stationary at Grassey Key and mobile as he travels to Key West and all points on the ocean. He will use the callsign KG8DP, as well as his club callsign NA8KD. This will be a week trip. QSL both KG8DP/NA8KD via info on QRZ.com (w/SASE). Mark will be using an IC-7000, 1.2 kw amp mobile and GLA-1000B portable amp. Antennas were not mentioned.

4/11 - 17/11 VIET NAM; XV AS-128

from the Island of Phu Quoc by DL7DF, who will lead a crew of operators. Their callsign has not been announced yet, but it is expected to be the XV prefix. Activity will be on 160-10 meters using CW and SSB with several stations on the air. One station will be exclusively dedicated to RTTY, PSK31 and SSTV. Their equipment consists of 3 transceivers (two K2 and one IC7000) with three kW linears into two 18m lowband verticals, a 2 element vertical for 40m, a 2 element vertical for 30m, two Spiderbeam for 20/17/15/12/10m, and some beverage antennas. Operators
mentioned are: DK1BT, DL4WK, DL5CW, DL7DF and DL7UFR. Pilot station for this DXpedition is Bernd, DF3CB. QSL via DL7DF, by the German QSL Bureau or direct to: Sigi Presch, Wilhelmsmuehlenweg 123, D-12621 Berlin, Germany. For complete details, visit http://www.dl7df.com/xv/index.html

7/11 - 16/11 SENEGAL; 6W/EI6DX

from Somone which is located 70 km southeast of Dakar. He will concentrate on the lower bands and CW. QSL via RX3RC, by the Bureau or direct. Look for updates at http://www.ei6dx.com/senegal/

11/11 - 13/11 PAPUA NEW GUINEA; P29VCX OC-117

from Hastings Island by SM6CVX. QSL via home call. The web page for the expedition is at http://www.425dxn.org/dxped/p29_2009/

11/11 - 18/11 SAMOA; 5W OC-097

from the Island of Upolu by IK1PMR, K2LEO/PA3LEO, PA0BWL, AA4NN, OE2SNL, DJ5IW and OZ1IKY are planning a DXpedition to three semi-rare entities (and possibly some other operations) in the Pacific between November 11th and December 13th. Callsigns have not been announced yet. Focus will be on the lower bands, but activity is planned for 160-10 meters using CW, SSB and the Digital modes. The team will use three Elecraft K2/100 with DSP and amps. For more information and updates, watch: http://www.ik1pmr.com/plans/a3/index.php?s=intro/

A PIC16F84 based CW Decoder

By IK3OIL

The project in few words
I propose a simple CW decoder wich makes use of a PIC16F84 microprocessor with a 16x2 chars LCD display. It is equipped with an audio frequency input from your receiver, an input for a stright key and an audio output locked to the input signal. It automatically adapts itself to the CW rate and may be employed for learning purpose substituting the traditional tone generator and offering the capability of displaying the keyed code.

Introduction
This project arises from a twofold need connected with CW learning, first of all to enance the performance of the traditional oscillator providing it with a display on wich you can verify the correctness of your keying, and then the need to have an instrument you can couple to the receiver so as to help those who, being still novices, are in a great trouble trying to deal with their early CW QSOs.
However it should be clear that, in my opinion, neither this device can substitute the ear's and brain's interpretation capability nor other similar instruments can do that. At the most they can help in quickening the code learning. The decoding capabilities are essentially connected to the received signal quality, it must by clear and strong enough, so don't think you can decode a weak and vanishing signal in the QRM, if this is your goal, you should much better make use of your ears. If however the signal is good and stable enough, then this equipment can succeed in doing its job well, adapting also itself to the CW rate, provided that it is sufficiently regular.

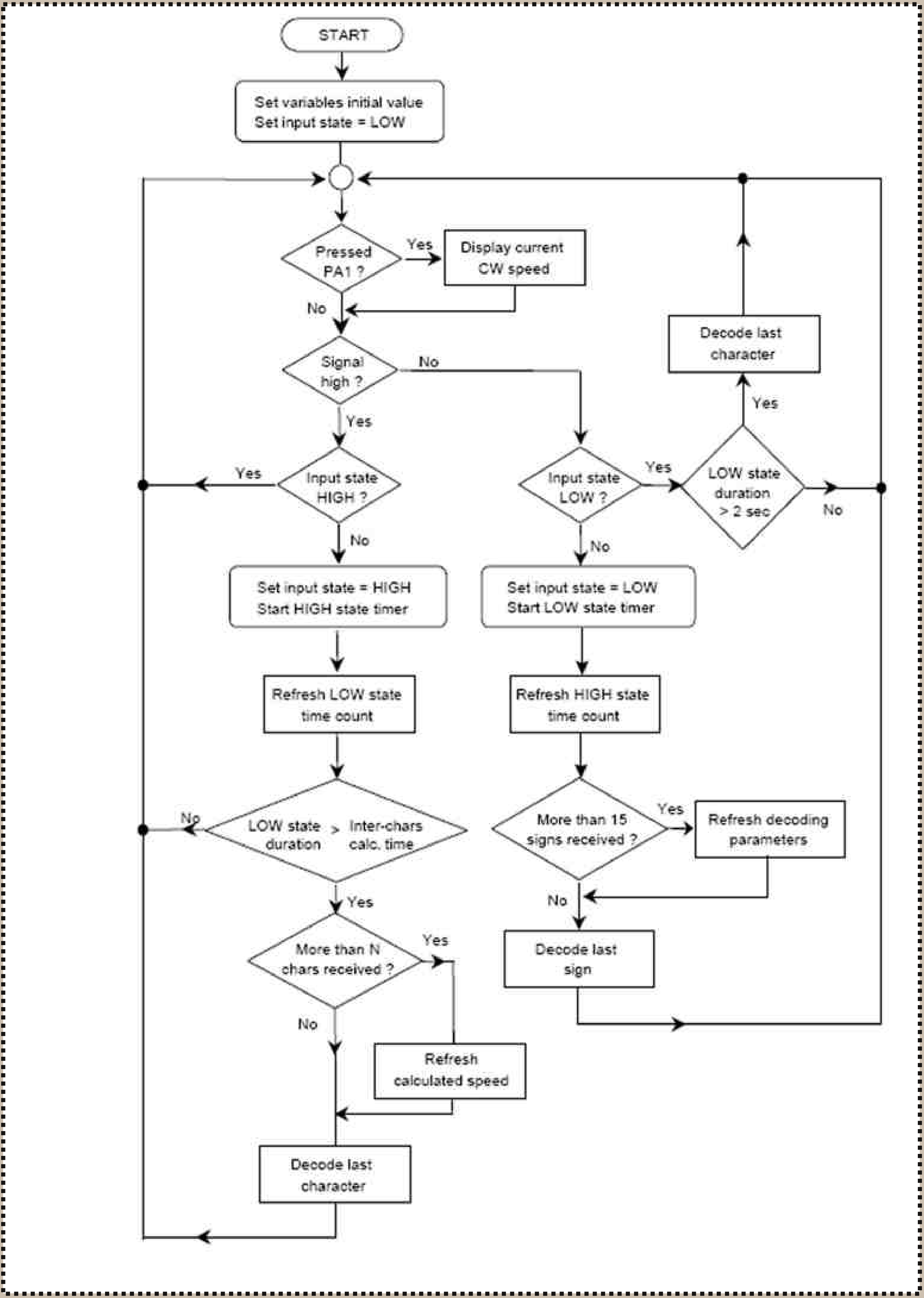
Specifications
The device is equipped with a 2x16 LCD display , the text shifts from left to the right starting from the end of the second raw. An inter-words automatic spacing function is provided, based on a regular timing of the pauses in the sent code. This function may be inhibited grounding the J pin if the device is used for training purpose or while receiving an improperly sent code. The audio input must be at least 100 mV pp, a clipper is provided to cut large signals. The band width is about 100 Hz and the center frequency may be adjusted between 700 and 1000 Hz by a trimmer. A service push button (P1) displays the keying rate in chars/min, this measure is refreshed every N received characters (N is a settable software parameter). An input is provided for a straight Key, and both inputs (audio and key) activate the code display and the audio monitor function, a LED is operative while receiving code and shows the correct lock to the audio input, these two monitoring functions are very helpful to adjust the receiver tune because of the narrow bandwith of the decoder. The BF monitor can drive a 32 Ohm earphone with the two sides series connected. The Vcc can be supplied by a 9V transistor battery and requires about 15 mA. An external supply (min 9V) is however recommended for long time use. When powered on, the microprocessor is setted for an intermediate keying rate, some characters may be therefore required to reach the lock with the received signal if it is very slow or very fast.

The Decoder Software

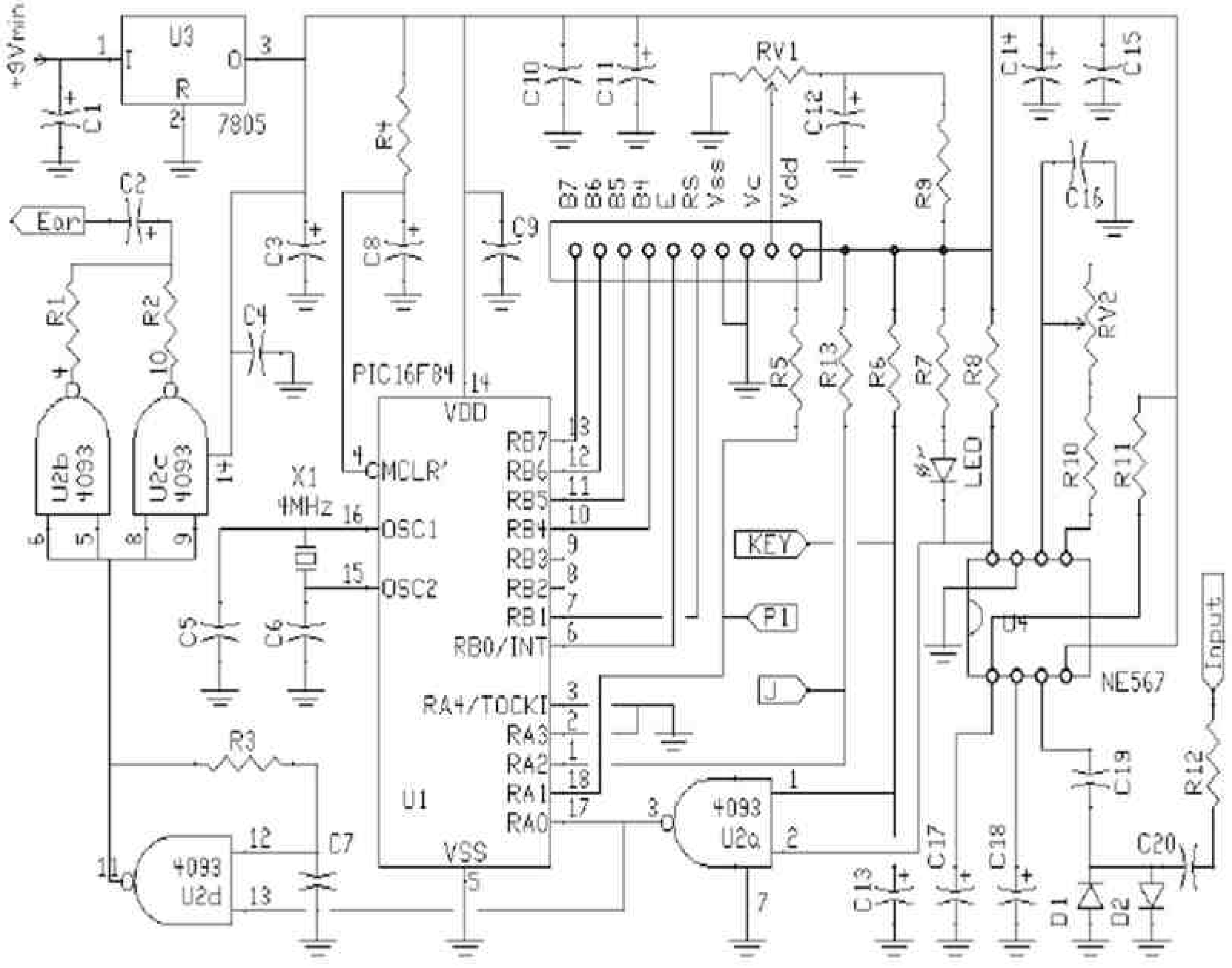
The software I developed makes use of the assembler PIC16 language and run on a PIC16F84 microprocessor. It takes a measurement of the received signal ON and OFF time, obtains some statistical mean values, and calculates three parameters wich are then used for decoding :

- Mean length of the dit/dash cycle
- Mean length of the inter-characters pause
- Mean length of the inter-words pause

A flow chart of the program (macro level) is listed below



Electrical Schematic



R1 : 1.8 KΩ	R11 : 33 KΩ	C8 : 1 µF	C18 : 0.5 µF
R2 : 1.8 KΩ	R12 : 3.3 KΩ	C9 : 100 nF	C19 : 100 nF
R3 : 18 KΩ	R13 : 18 KΩ	C10 : 100 nF	C20 : 100 nF
R4 : 22 KΩ	C1 : 47 µF - 25 Vl	C11 : 220 µF	U1 : PIC16F84
R5 : 18 KΩ	C2 : 4.7 µF	C12 : 22 µF	U2 : 4093 CMOS
R6 : 18 KΩ	C3 : 100 µF	C13 : 1 µF	U3 : 78L05
R7 : 820 Ω	C4 : 100 nF	C14 : 220 µF	U4 : NE567
R8 : 10 KΩ	C5 : 82 pF	C15 : 100 nF	RV1-RV2 : 4.7 KΩ
R9 : 10 KΩ	C6 : 82 pF	C16 : 100 nF	D1-D2 : OA95 - AA118
R10 : 10 KΩ	C7 : 100 nF	C17 : 1.5 µF	X1 : 4 MHz xtal

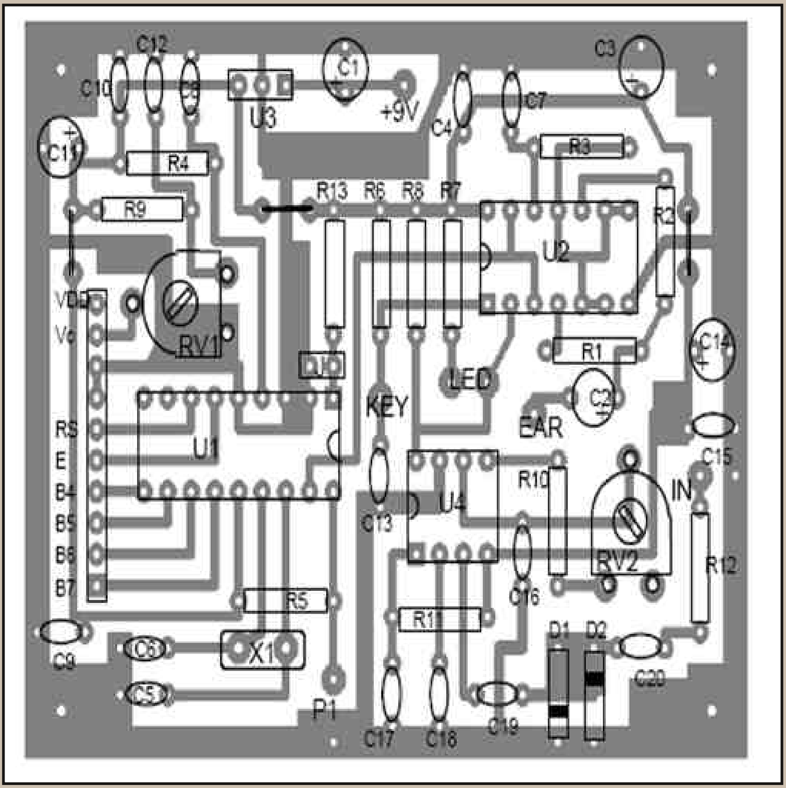
The schematic appears very simple, actually almost all of the functions are performed by the microprocessor software, while an NE567 tone decoder takes charge of processing the audio input signal. This IC contains a PLL circuit whose lock frequency may be adjusted between 700 and 1000 Hz by the RV2 trimmer.

With the listed component values it is obtained a band width of about 100 Hz. The minimum accepted input signal amplitude is 100 mV pp and its time duration would be at least 20 mS. The PLL measured lock delay is about 10 mS.

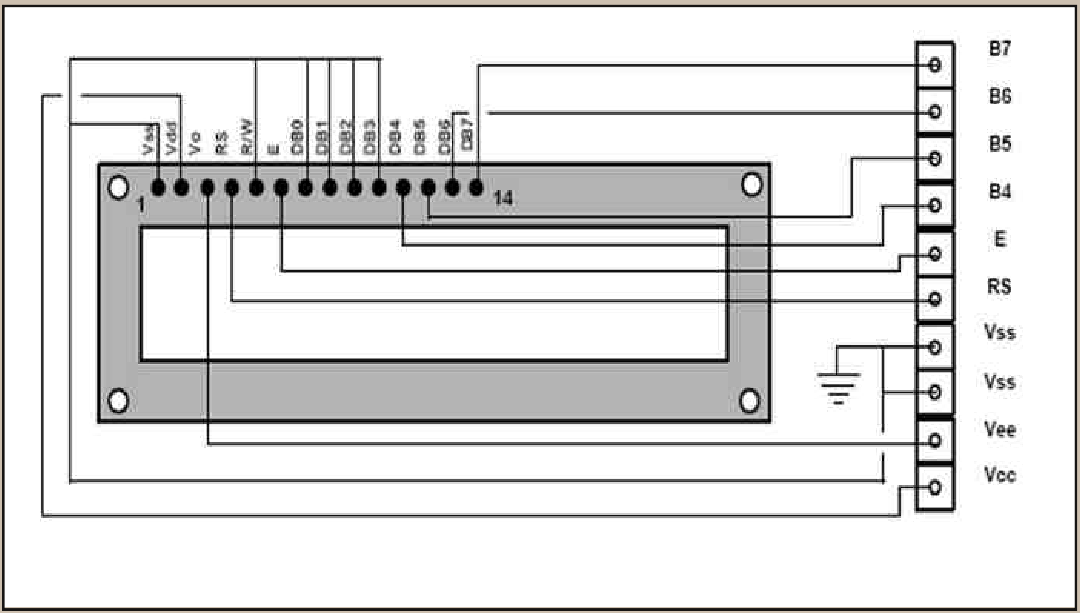
A clipper is provided to limit the input signal amplitude, it is obtained by 2 germanium diodes (OA95, AA118, …. not critical).

A LED is connected to the pin 8 of the PLL to show the correct frequency lock. The same pin 8 drives one gate (pin 2) of the CMOS trigger NAND 4093 whose output (pin 3) is connected both to the microprocessor PA0 gate and to a second CMOS gate (pin 13) working as an audio generator. The remaining two 4093 gates are used to implement a buffer capable of driving a medium impedance load (64 Ohm).
A 78L05 regulator supplies both the decoder module and the LCD display, the RV1 trimmer is used to adjust the display brightness. The only required tuning is an RV2 trimmer adjustment so as to obtain the best frequency lock using an input CW signal strong and clear from your receiver

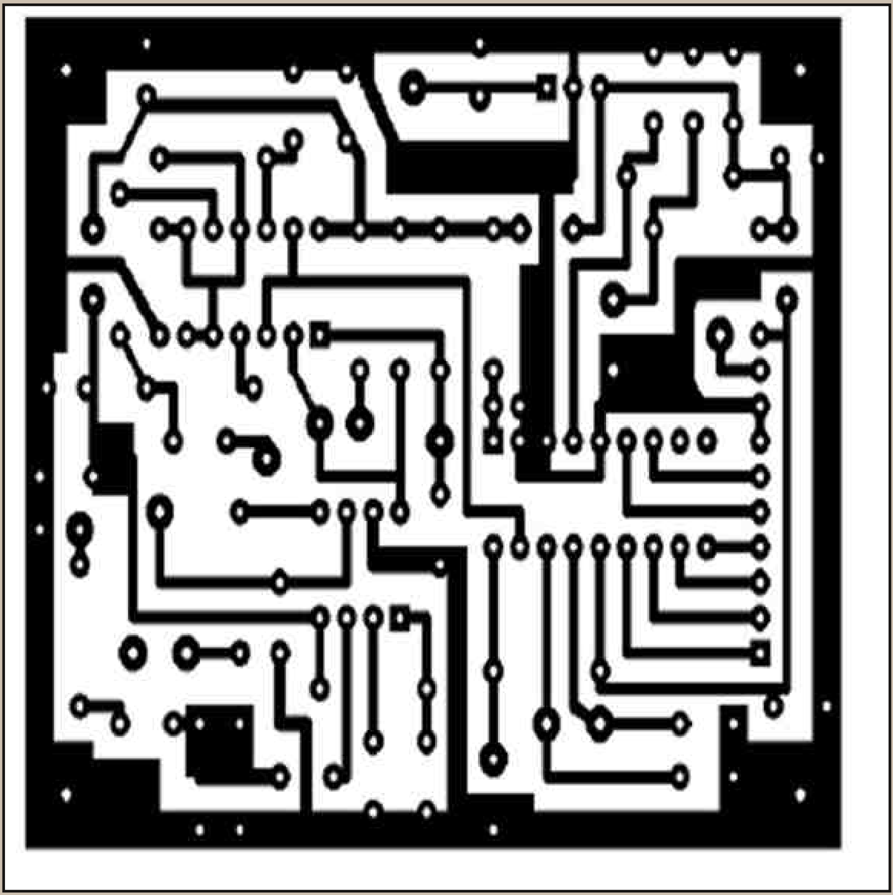
Component Layout



The whole circuit is mounted on a 60x80 mm PCB board. It is recommended to make use of small sized components (ceramic multilayers capacitors, low voltage electrolitics, …) so as to make easier the assembling. The LCD display is connected by a 10 pole flat cable soldered to 2.54 mm standard connectors, as shown below



PCB board



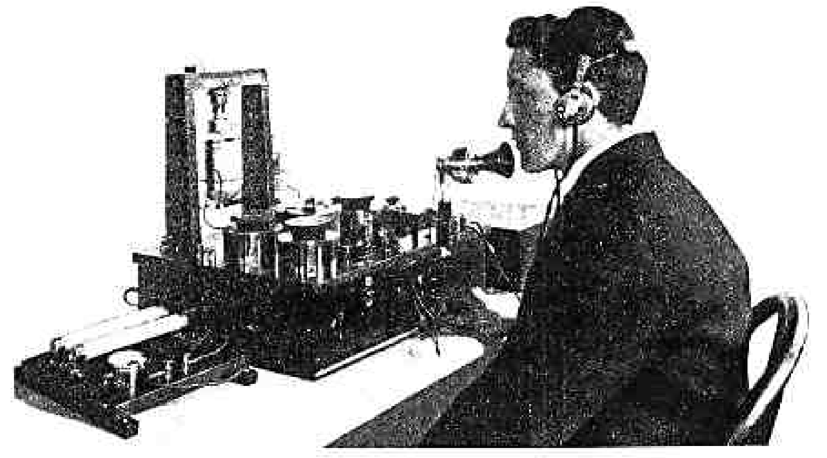
The PIC16F84 development tool

You may find several commercial development tools for the PIC16F84 micro (see for example the Microchip Starter Kits). However if you are interested in a low cost solution, you can download from the Microchip WEB site:
http://www.microchip2.com/index.html
The assembler software MPASM:
http://www.microchip.com/10/Tools/pTools/MPASM/index.htm
and the simulator MPSIM:
http://www.microchip.com/10/Tools/Archive/index.htm
Together with the technical documentation. Regarding to the hardware programmer construction, it is easy to find many references on Internet (I’ll be glad to provide some informations). You can download a shareware version of the CIRCAD software from the Holophase WEB site:
http://www.holophase.com/

Final notes

No particular difficulty should arise in the realization, neither in the finding of the components nor in the assembling of the decoder. If you are interested in obtaining more informations, a copy of the PIC software or the CIRCAD PCB files, you may contact me at my E-mail box : ik3oil@arrl.net.

Best 73's IK3OIL

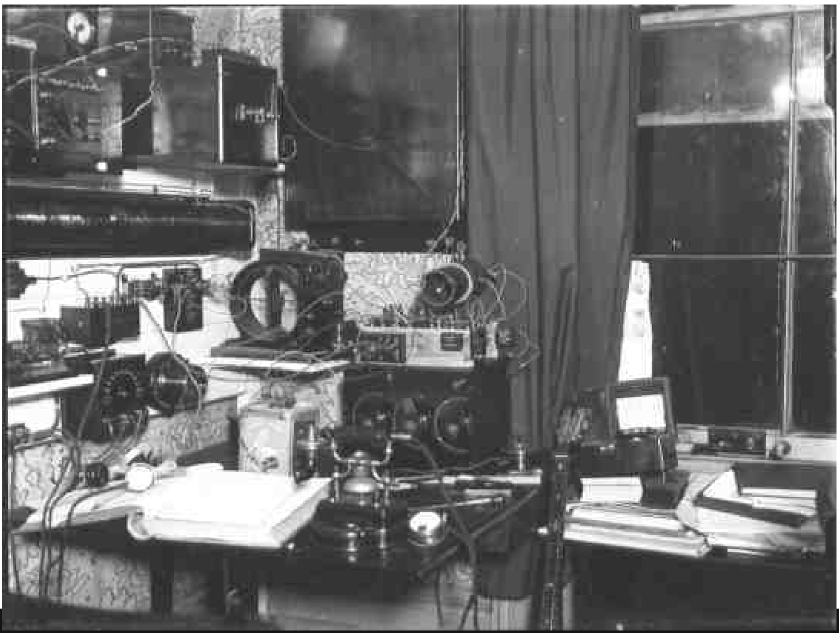


A Hundred Years of Amateur Radio

By G3NGD

First Part:

The first fifty years

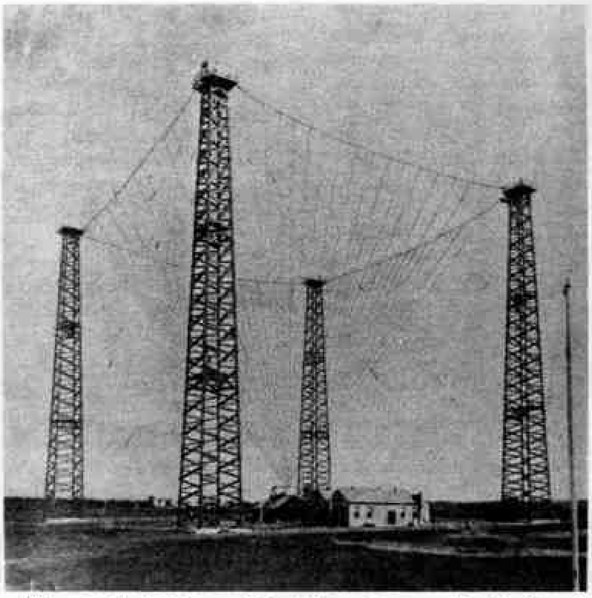


The conception of the transmission of electromagnetic waves from one point to another, with no material connected between them is just over a century old.

From the last decade of the nineteenth century, scientists, amateurs, experimenters and engineers have worked together to develop radio as a practical means of communication.

This miniature thesis tells the story of the pursuit of one of the most fascinating hobbies - Amateur Radio - in which many people living in the United Kingdom played a pioneer role.

The term "Radio Amateur" can be defined as the practice of two-way short-wave radio communication, not as a business or means of profit, but as a hobby, pursued for the pleasure to be derived from an interest in the radio technique, construction and operation for the ensuing friendships which can be made with people all over the world.



Marconi station at Poldhu, Cornwall, England, about 1905. The four wooden towers support a network of wires which converge to a point just above the transmitting and receiving buildings between the towers.

The beginnings of amateur radio, as of radio itself, lie deep in the past, indeed one could begin thousands of years ago with those persons whose curiosity was aroused by the attraction of small particles by beads that had been rubbed.

This was not really investigated until Gilberts' experiments in electricity during the reign of Queen Elizabeth I, followed by the discoveries of Ampere, Volta, Faraday and Maxwell, which prepared the world for what was to be one of the greatest revelations of all time - the means of telecommunication by wireless telegraphy.

Michael Faraday was the first to suggest that this relationship existed between light and the new "electromagnetism", but it was Heinrich Hertz at Karlsruhe, Germany who in 1887 finally established by experiment the principle of radiation. This was called Hertzian wave wireless communication.

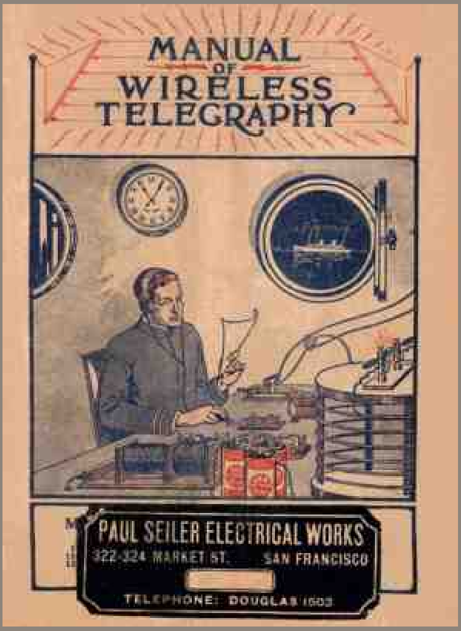
Marconi's first wireless system (patented in 1896) was based directly on the experiments conducted by Hertz some eight years earlier. In 1897 Marconi succeeded in transmitting signals across a distance of eight miles; the following year a distance of eighty-five miles was achieved.

In December 1901, the world was startled by the news that Marconi at St. Johns, Newfoundland, had received the Morse letter "S" transmitted by Ambrose Fleming at Poldhu, Cornwall. And so, as the twentieth century began to take shape, hundreds of people, young and old, possessed of a scientific bent and thrilled by the news that transatlantic wireless communication had indeed taken place, accepted the challenge of the unknown laid down for them by their illustrious forbears and became the world's first radio amateurs.

The Postmaster General (Lord Stanley) in his Report to parliament for the year 1903-04 recalled that he had recently introduced in the house of Commons, a bill for the purpose of requiring all wireless stations to be licensed. He gave as a reason the Government's decision to secure an adequate control of all wireless telegraphy installations.

The Wireless Telegraphy Act 1904 became law on August 15 of that year, and was the first piece of legislation of its kind in history. It remained in force until July 31, 1906, after which it was extended on a year - to - year basis under the Expiring Laws Continuance Act until replaced by the Wireless Telegraphy Act of 1924.

The Postmaster General, in his Report to Parliament for 1904-05 referred to the strategic importance of Wireless Telegraphy. He reported that he had received numerous applications for licences under the terms of the Act; the majority being from persons who desired to use wireless telegraphy for experimental purposes. His desire to encourage the wireless experimenter was confirmed when he said, "the class with whom I have the greatest sympathy are those who wish to go in for experiments in this science. I have been able to frame a clause which will give absolute freedom in that direction, merely requiring registration on the part of those who wish to engage in experiments. In a matter of this description the House will doubtless desire that the Act should be administered as liberally as possible and I shall certainly do my best in that direction. For what it is worth, I will give an understanding that no request for a licence for experiments shall be refused unless the refusal has been approved by me personally".


MANUAL of WIRELESS TELEGRAPHY
PAUL SEILER ELECTRICAL WORKS
322-324 MARKET ST. SAN FRANCISCO
TELEPHONE: DOUGLAS 1503

Quoting this speech by Lord Stanley at the opening of the Fourth RSBG Amateur Radio Exhibition on November 22, 1950, Mr Hugh S. Pocock MIEE (then Editor of Wireless World Magazine), suggested that if it had not been for this sympathetic attitude to the amateurs on part of the then Postmaster General, it was conceivable that private experimental licences would never have been granted.

Although Lord Stanley had indicated that those who wished to experiment would merely be required to register, Section 2(1) of the Act stated that "where the applicant for a licence proves to the satisfaction of the Postmaster General that the sole object of obtaining the licence is to enable him to conduct experiments in Wireless Telegraphy, a licence for that purpose shall be granted, subject to special terms, conditions and restrictions as the Postmaster General may think proper, but shall not be subject to any rent or royalty.

On May 29, 1906, the then Postmaster General (Sydney Buxton MP) was ordered by the House of Commons to render a Return "applications for Licences under the Wireless Telegraph Act 1904, showing how each Application had been dealt with". This Return dated June 13, 1906 is of interest because it gives the name and addresses of sixty-eight persons to whom an Experimental Licence had been issued - the first such list ever published.

From Encouragement to Restriction

In April 1913, the Postmaster General announced that the number of licences for experimental purposes had increased to almost two thousand. It was certain that certain people in high places began to show concern, and Parliament was informed that new licence conditions were to be introduced. The new conditions would ensure, as far as possible, that licences to conduct experiments would only be issued to persons having the necessary qualifications. In addition, the Post Office would impose a licence charge of one guinea.

Each station was to be allocated a call-sign which was to be used for identification purposes.

It was with the knowledge that new conditions were to be introduced that wirelessenthusiasts up and down the country began to realize the urgent necessity for takingcollective action. Against the background the London Wireless Club was formed (later to become the Radio Society of Great Britain - RSGB).

Then the war clouds rolled up, bringing in their train a telegram to all licence holderthat was destined to put an end to amateur wireless experiments for a very long while.

The First World War culminated with the signing of an armistice on November 11, 1918. The enthusiastic amateurs looked forward to the return of their licences. Months passed by with no word from the Government of their intention in regard to the wireless amateur. The pages of Wireless World Magazine throughout the period from January until December 1919 were alive with references to "Amateur Radio Position".

Senatore Marconi wrote:

"In my opinion it would be a mistaken policy to introduce legislation to prevent amateurs experimenting with wireless telegraphy. Had it not been for amateurs, wireless telegraphy as a great world-fact might not have existed at all. A great deal of the development and progress of wireless telegraphy is due to the efforts of amateurs". Late in November 1919 the Post Office announced that a new Wireless Telegraphy Bill would shortly be introduced into Parliament.

The new licences were issued in April 1920, and contained additional conditions to the previous licence. The applicant must now satisfy the Post Office that he/she has "some definite object of scientific value in view". Applicants must "have a knowledge of the regulations insofar as they relate to interference". A Morse operating speed of at least twelve words per minute sending and receiving would be required.

Many and strange were the applications composed to fulfil the requirement as to the object of scientific value. Perhaps it was fortunate for many that once the experimental licence was issued, the authorities seemed to lose interest in those "experiments".

An "Artificial Aerial" licence was available which required no examinations to be taken. This licence gave no right to radiate signals, but merely to install or build transmitters. Sometimes it seemed the Post Office had engaged the applicant in a form of chess. The applicant would-be amateur would submit a list of proposed experiments to improve transmitter design .... the Post Office would counter by declaring such experiments could be equally well carried out with an artificial aerial permit. The frustrated applicant would consult one of the fortunate, who had already obtained a licence, and together they would concoct a new thesis, this time bringing in some mention of aerials and propagation.

After a licence had been held for a period of six months, a permit to run high power could be applied for. This usually meant that the applicant would have to dream up some more "experiments" that would justify the application. One of the main developments in radio after 1918 was the discovery of the usefulness of the shortwave-bands. It was generally considered that wavelengths below 200 metres (1.5MHz) were useless except for short distance transmission, though cases were known of long ranges being obtained on short waves.

These were regarded as freaks, however, and wavelengths below 200 metres were after 1918, allocated to amateurs who encouraged by these "freak" results, arranged trial broadcasts from America to England. Their success showed that short-wave low power broadcasts could be heard over long distances.

The first American amateur stations were heard in Britain during November 1921, and the next year, amateur stations in London and Manchester were heard in America. A year later, in November 1923, the first amateur two-way trans-Atlantic contact took place on about 110 metres between France and America; and within a few days of this event British amateurs reduced their wavelength and began to communicate across the Atlantic. With valves and components then available it was no simple matter to achieve operation on wavelengths of 100 metres and below. By the following autumn, two-way contacts between Britain and New Zealand on the eighty metre band represented the longest distance of communication possible on the globe.

Soon operation on the forty and twenty metre bands were producing long-distance contacts at all times of the day and night, and there began a flood of commercial stations opening up to exploit those discoveries which had stemmed directly from amateur radio. By 1928 the Atlantic was spanned on ten metres, and even five metres was being used by amateurs before the end of the 'twenties. The authorities became alarmed at the ease with which the amateurs were working one another throughout the world and introduced a ban on international working by British amateurs. These restrictions were eventually removed, but not until after a tough fight with officialdom.

In June 1933 a National Field Day was held at many locations in the British Isles. The purpose was to demonstrate that low power portable stations set up at short notice out of doors were capable of maintaining reliable communications with other low-power portable stations in different parts of the British Isles. The results showed "that if the necessity arouse, the Amateur Radio Movement in the United Kingdom could place into operation an emergency network at short notice". Six years later, many radio amateurs who were among the first of the many thousands of R.A.F. reservists to go abroad, were grateful for this experience.

During the summer of 1938, a civilian reserve was established, and licensed radio amateurs between the ages of eighteen and fifty-five were recruited. As part of their training, they visited R.A.F. stations and studied R.A.F. procedure and servicing. On passing the Morse examination at eighteen words per minute, a grant was made of two pounds stirling, and opportunities were provided for promotion to commissioned rank.

The blow came suddenly but not unexpectedly. A notice in the London Gazette of Thursday 31 August 1939 proclaimed:

"I Major George Clement Tyron, His Majesty's Postmaster General, hereby give notice that ... all licences for the establishment of wireless telegraphy sending and receiving stations for experimental purposes are hereby withdrawn". ***The second world war had begun!***

To be continued...

Spécial mobile Antennas

Reference Antenna

HAM-MAG N.9 - October 2009
Chief Editor : Vincent Faucheux - F5SLD
Design & conception : V.N.A.C.E.

This issue does exist thanks to : G3NGD, IK3OIL, KA6KBC, N3BNA, ON6MU, SM3CVM, OPDX.

Send your informations to : f5sld@free.fr

Website : http://www.ham-mag.com

This magazine has been sent to 6,900 E-mails

HAM-MAG

Le 1er E-magazine hebdo pour radioamateurs, amateurs radio, SWL...

MONACO RADIO

PAR F5OZK

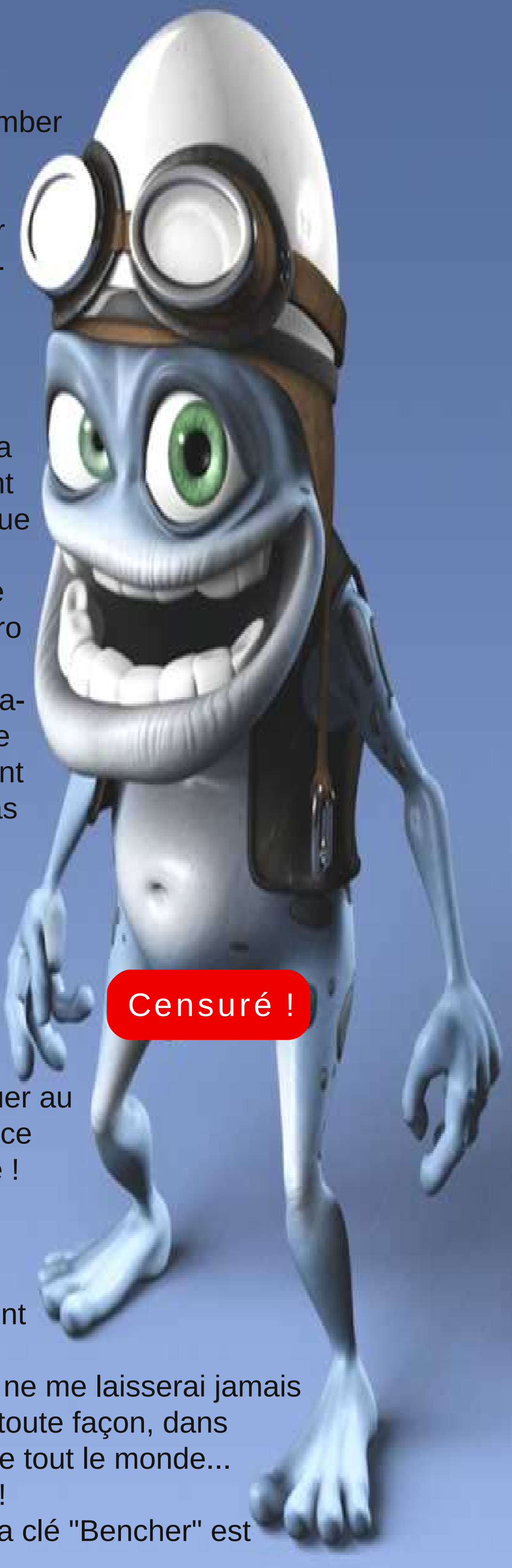
PAGE SPECIALE
CQWW DX CW

NUMERO 9
GRATUIT

24 NOVEMBRE 2008
http://ham.france.free.fr

EDITORIAL

Crazy Froggy !



Certaines personnes m'ont traité de fou !
Bien sûr, cela reste bon enfant, et sans tomber dans l'insulte notoire. Mais ces messages sont arrivés suite à la décision de faire la version anglaise de HAM-MAG pour le 1er Janvier 2009. Avant de prendre cette décision (folle ?), j'ai mûrement réfléchi aux conséquences. Oui, cela représente une charge de travail supplémentaire, oui, les journées ne font que 24 heures, mais la version anglaise sera sur le même schéma que la versionfrançaise, les O.M. enverront des infos, des articles, etc. Et je ne ferai que la mise en page et la diffusion. La matrice existe déjà et l'expérience aidant, je passe moins de temps à l'élaboration d'un numéro par rapport aux débuts. Le succès de ce genre de publication dépend de la participation collective et de la diversité. Dans votre entourage radio, vous connaissez sûrement des O.M. anglophones. Alors, n'hésitez pas à leur annoncer cette naissance prévue pour début janvier. Cependant, je ne souhaite pas que cette nouvelle version fasse baisser la qualité de la version fran çaise ou qu'elle prenne le dessus. Ces deux magazines qui porteront le même nom seront complémentaires. D'autres pourraient s'étonner qu'un frenchy ose s'attaquer au grand Marché anglophone, car après tout,ce serait plutôt l'affaire d'un O.M. anglophone !
Mais, pourquoi pas ?
Mon but n'est pas de me retrouver dans le "hall of fame", ou de faire fortune grâce au pays de l'eldorado, mais tout simplement de répondre à une demande. Alors...
J'essaye d'apporter une contribution, et je ne me laisserai jamais décourager par quelques réfractaires. De toute façon, dans 100 ans, je serai dans les abysses, comme tout le monde...
Restons positifs et affûtons nos antennes !
Le CQWW DX CW arrive ce week-end. Ma clé "Bencher" est prête ! et la votre ?
Bonne semaine et bonne lecture ! *73's from a crazy froggy...*
Vincent FAUCHEUX, F5SLD

H A M

M A G

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Remerciements à **F0EOS, F4FUC, F4CRM, F5IRO, F5OZK, F5RCT, F5DV, F6BCU, F6HQY, JN28JA, ON3MAJ, ON4XA, YO4PX, Jérôme**...

Merci aux différents annonceurs qui nous accordent leur confiance et à tous les O.M. qui nous ont envoyé des messages de soutien et des dons. Pardon à ceux que j'aurais oubliés...

ERRATUM : Dans le numéro 8, à la page concernant l'O.M. de la semaine, l'indicatif du radio-club Vauréal est : F8KGL
Désolé pour cette erreur ! (tnx F0EOS)

Vous pouvez nous contracter par Mail : ham.france@free.fr

Nous incitons nos lecteurs à ne pas copier et envoyer cette revue à leurs amis mais plutôt les inviter à s'abonner. C'est gratuit et sans publicité intempestive.
N'oubliez pas que ce magazine a été réalisé par des bénévoles au détriment de leurs heures de loisirs et de trafic.

MONACO RADIO

Par F5OZK

MONACO RADIO, Indicatif : 3AC

Suite à un voyage sur Monaco, j’ai profité de mon déplacement pour rencontrer la station « mythique » de MONACO-RADIO (l’une des dernières en Europe à avoir repris, en partie, l’activité de Saint-Lys-Radio)

La station Radio Maritime de Monaco Telecom a été créée en 1967. Sa vocation ? Assurer le lien entre les marins en mer et la terre. Depuis 40 ans la voix des mers assure des services aussi vastes que l'assistance médicale, la mise en relation de particuliers ou de professionnels avec la terre ferme via les liaisons radiophoniques et surtout la diffusion quotidienne de bulletins météo pour les zones Méditerranée mais aussi les zones Antilles, Atlantiques, Mer Noire et Mer Egée.

Située en bord de mer, à l’extrême pointe du « roché » cette dernière à pour objectif de diffuser chaque jour, la météo marine, et dispose également d’une veille sur certaines fréquences HF et VHF.

Cette activité est à part entière prise par une société privée Monégasque et se nomme **NAYA.**

Voici ci-dessous le détail plus approfondi de leur activité :

NAYA est une société monégasque créée en 2007 dont les activités sont principalement tournées vers la télécommunication et les services mobiles radio et satellites dans les domaines terrestres, aéronautiques et maritimes.

Un petit historique :

L’année dernière, Monaco Telecom, alors propriétaire du centre de Monaco Radio, annonçait la fermeture de son service de communication maritime en décembre 2007.

NAYA, société monégasque dont les activités sont principalement tournées vers la télécommunication et les services mobiles radio et satellites dans les domaines terrestres et Maritimes, a repris à sa charge les activités de Monaco Radio au 1er janvier 2008.

- Le Gouvernement Monégasque souhaitant faire perdurer le rayonnement de la Principauté de MONACO sur le monde maritime, a confié à la société NAYA le soin de poursuivre la diffusion des informations et bulletins météorologiques par radio HF et VHF.

Le service, composé dans sa grande majorité « d'anciens de Monaco Radio » et apprécié de tous les marins, propose donc des diffusions météorologiques sur les mêmes canaux radio qu'auparavant, aux mêmes horaires.

Cependant, sensible aux attentes et souhaits exprimés par les navigateurs au travers de nombreux supports, NAYA étudie dès à présent des solutions afin de faire évoluer ce service.

La station radio maritime mondialement connue des gens de la mer sous le nom de MONACO RADIO, créée par Ordonnance Souveraine de SAS le Prince Rainier III en 1967, poursuit donc sa mission d'accompagnement des marins.

• Le monde des communications mobiles étant en perpétuelle évolution, NAYA met à disposition des navigateurs, son expérience dans les services et systèmes satellites INMARSAT, IRIDIUM, THURAYA, TV, etc. En leur faisant bénéficier des dernières évolutions technologiques du marché, ainsi que des meilleures offres tarifaires.

NAYA devient un interlocuteur privilégié pour les marins et globe-trotters en proposant des services aussi divers que la vente, l'installation, le contrôle ainsi que les souscriptions d'abonnements aux systèmes satellites correspondants.

Retrouvez toutes les informations concernant les diffusions des bulletins météo et les services satellites de NAYA sur : http://www.naya.mc ou par tél au +377 97 70 83 62.

La Sté NAYA propose au travers de son service radio maritime MONACO RADIO :
- la diffusion d'informations et bulletins météorologiques,
- le contrôle et la validation de stations et installations radioélectriques,
- la vente d'équipements HF et VHF , terrestres, aéronautique, marines,
- l'installation de systèmes de communication radio,
- l'étude et la réalisation de projets spécifiques.

Le site de MONACO-RADIO et ses antennes situées à la pointe du rocher

FREQUENCES MONACO RADIO BLU (3AC)

Canal	Fréq.3AC	Fréq.navire
403	4363	4071
804	8728	8204
830	8806	8282
1224	13146	12299
1226	13152	12305
(1238)	(13188)	(12341)
1607	17260	16378
1628	17323	16441
2225	22768	22072

Fréquences veillées en permanence de 5h à 21h GMT heure d'été et de 6h à 22h GMT heure d'hiver.
Vous trouverez un complément d’information sur les fréquences marine utilisées à ce jour sur ce lien http://fr.wikipedia.org/wiki/Bandes_marines

Voici l’opérateur qui « enregistre » les bulletins météo chaque jour

Voici les transceivers HF et VHF en veille permanente, en cas de secours

Enfin, si vous avez la chance de passer sur Monaco, n’hésitez pas à leurs rendre visite, les opérateurs se feront une joie, de vous recevoir, et de vous faire visiter la station.

73 de 3A/F5OZK Fred

L'O.M. de la semaine
J28JA, Jean-claude

RESEAU D' URGENCE INTERNATIONAL.
Portrait d'un correspondant.
Pays : REPUBLIQUE DE DJIBOUTI

Indicatif : J28JA
QTH : Djibouti.

Jean-Claude APERT a cinquante trois ans. Militaire de carrière depuis 1973, il a débuté son instruction transmission à Montélimar. Jean-Claude a obtenu son certificat d'opérateur en 1989, l'Art lui a attribué l'indicatif F5RWE. En poste en République de Côte d'Ivoire, c'est là qu'il a réellement débuté ses activités radioamateur Il a réellement été actif avec TU4DO comme call. Puis suivirent TT8JA et maintenant J28JA. Cet indicatif lui a été attribué par l'Office des Postes et Télécommunications de Djibouti (actuellement Djibouti Télécom) durant son second séjour dans la corne de l'Afrique (1994/1996). Il effectue actuellement son troisième séjour dans ce pays.

La station exploitée par J28JA:
Un transceiver YAESU FT847 et un transceiver KENWOOD TS140S.
Aériens disponibles : Antenne verticale R7 et une beam 10 -15 et 20 Mètres.
Modes de transmissions pratiqués : CW et SSB
Bandes exploitées : toutes bandes décamétriques.
Les OM's réellement actifs depuis Djibouti ne sont pas nombreux : il y a J28OO et J28JA. Pour les collectionneurs de cartes QSL, le QSL manager de J28JA est F5JFU qui ne manque sûrement pas de travail avec Jean-Claude : 47000 contacts depuis Août 2006 !

On dénombre 807 000 habitants dans ce pays qui partage 113 kilomètres de frontière avec l'Erythrée, 337 avec l'Ethiopie et 58 avec la somalie. La côte bordant le Golfe de Tadjoura est longue de 113 kilomètres. La superficie du pays : 23200 km². Le territoire est constitué pour 90% de désert et n'a aucun cours d'eau permanent. Son relief volcanique est tourmenté : point culminant : 2010 m, tandis que le point le plus bas se situe à 174 mètres au-dessous du niveau de la mer….Les ressource principales de la République de Djibouti sont constituées à un peu plus de 90% par les activités industrielles et de services.

Par **F5DV Michel DAVERAT**
Coordinateur du R.U.I pour l'Europe et les DOM/TOM.

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MICRO BALISE VHF
PAR F5RCT

Nos activités de chasse aux renards ou radiogoniométrie peuvent être utiles pour suivre un animal dans la nature. Cette technique permet de garder la trace d'un animal domestique et pourquoi pas de lui porter secours. C'est ainsi que nous avons équipé une chatte aveugle qui avait tendance à se perdre en terrain inconnu pendant sa pension de vacances. Equipée d'un collier émetteur, elle était localisable dans un rayon de 300m. Cette activité fait aussi la joie des enfants qui ne manquent pas d'imagination pour inventer un jeu de recherche puisque la cible se déplace !

Nous allons vous décrire une micro-balise
de 26.6 x 23.6 mm et qui ne pèse que 30 grammes !

Il a fallu penser à l'autonomie et à la miniaturisation. Pour économiser l'énergie, la balise fonctionne comme un émetteur télégraphique en émettant une porteuse pendant un court instant. Pour recevoir le signal il faut être équipé d'un récepteur de radiogoniométrie VHF en mode CW ou BLU. Selon l'accord du récepteur on entendra un « bip » plus ou moins aigu dont l'amplitude sera la plus forte dans la direction de propagation. La miniaturisation dépend de la source d'énergie qui est ici une pile de 3 V au lithium type CR2032. Ce type de pile ce trouve facilement dans le commerce et sa capacité atteint 180mAh.

Les composants CMS sont incontournables pour miniaturiser l'ensemble. Il faut une bonne vue ou une bonne loupe. Ces composants sont aujourd'hui une réalité, avec un peu de patience on y arrive !

Ce montage émet des « bips » de courte durée, toutes les secondes environ.

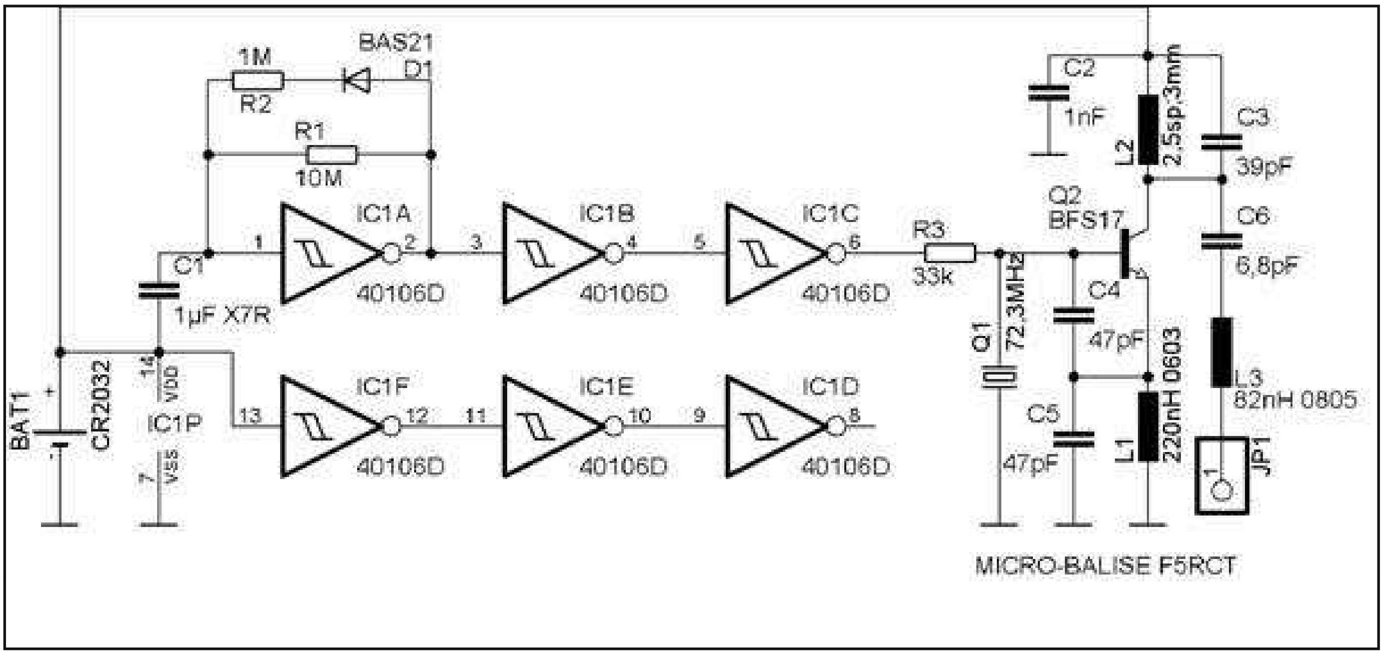
A gauche du schéma se trouve un oscillateur RC de très faible consommation. Le condensateur C1 se charge lentement par R1 et se décharge rapidement par R2 quand la diode D1 conduit. Le signal est ensuite inversé deux fois par les portes U1B et U1C pour éviter que la charge de l'oscillateur HF ne perturbe le générateur d'impulsions.

Les portes non utilisées U1D, U1E et U1F voient un niveau logique imposé pour ne pas consommer de courant. Le circuit 40106 est alimenté directement par la pile.

A droite du schéma nous avons l'oscillateur HF à quartz. Cet oscillateur de type Colpitts est conçu pour faire osciller le quartz sur sa 3e harmonique (mode overtone3). Le quartz Y1 est donc prévu pour résonner sur 72.3 MHz en mode overtone 3. La self L1 associée à la capacité C5 empêche le transistor d'osciller sur le mode fondamental du quartz. Dans le collecteur du transistor on recueille l'harmonique 2 du courant pour ainsi doubler la fréquence. Le circuit accordé formé par L2 avec C3 privilégie ainsi la fréquence de 144 MHz. Enfin les éléments C6 et L3 adaptent l'antenne qui est un fil de 41cm.

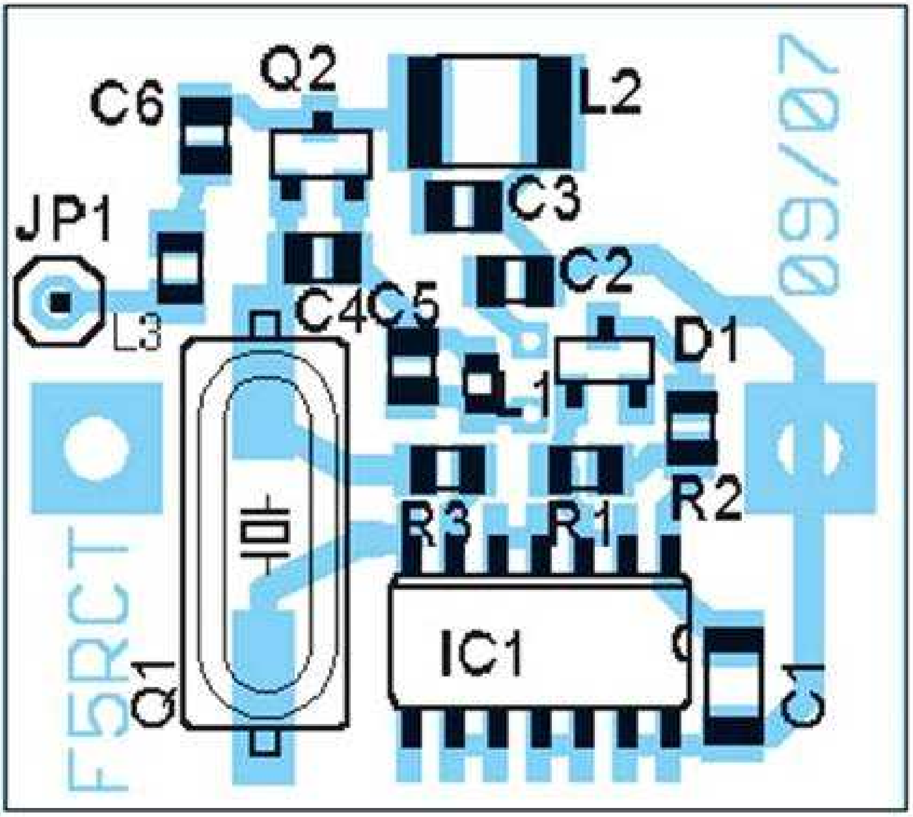
La puissance de cette balise ne dépasse pas 0.1mW. Avec un bon récepteur de chasse aux renards on peut détecter cette balise jusqu'à 300m. Avec une pile CR2032 l'autonomie est de 2 à 3 semaines environ.

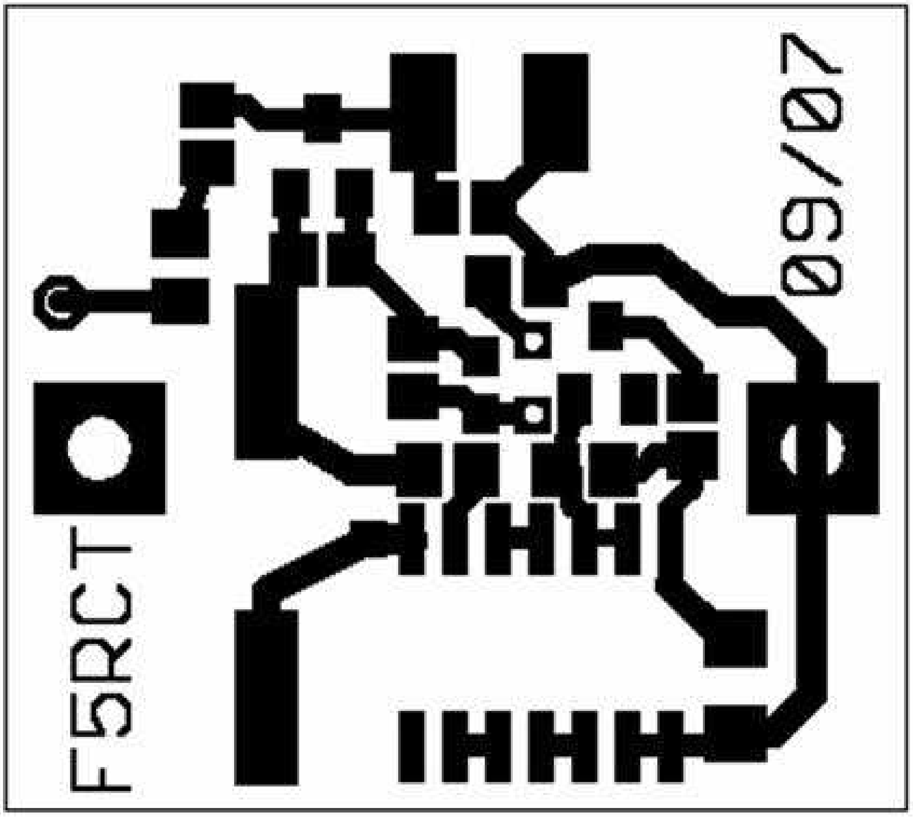
La réalisation demande un peu d'adresse et de dextérité pour pouvoir miniaturiser celle-ci à la taille de la surface de la pile CR2032. Le prototype fut câblé sur un circuit imprimé pastillé avec plan de masse, puis routé avec un logiciel. Le coté plan de masse est en contact avec le pôle négatif de la pile. Le porte-pile ramène le pôle positif sur l'autre face par le côté.
Le schéma a été agencé pour pouvoir effectuer le câblage le plus directement possible.



La mise au point est très simple. Alimenté sous 3 V le générateur d'impulsion doit fonctionner aussitôt (brancher la sonde de l'oscilloscope sur la broche 6 de IC1).
Pour tester l'oscillateur HF, court-circuiter la capacité C1 pour avoir un état logique haut sur la broche 6 de IC1. Vérifier le signal à l'aide d'un analyseur de spectre ou un récepteur VHF. Suivant la longueur d'antenne on peut ajuster C6 et/ou L3 pour le maximum de rayonnement à 144 MHz.
Aucun interrupteur n'est prévu pour couper la balise, on peut se servir d'un petit bout de carton ou de plastique que l'on insère entre la pile et le porte-pile.
Bonne chasse !
F5RCT Jean-Matthieu STRICKER   f5rct.jm>@<gmail.com

Sur la photo ci-contre :
« Pépette » qui est aveugle suite à un empoisonnement. L'antenne est un fil enroulé autour du harnais.





Taille réelle 26.6 x 23.6 mm

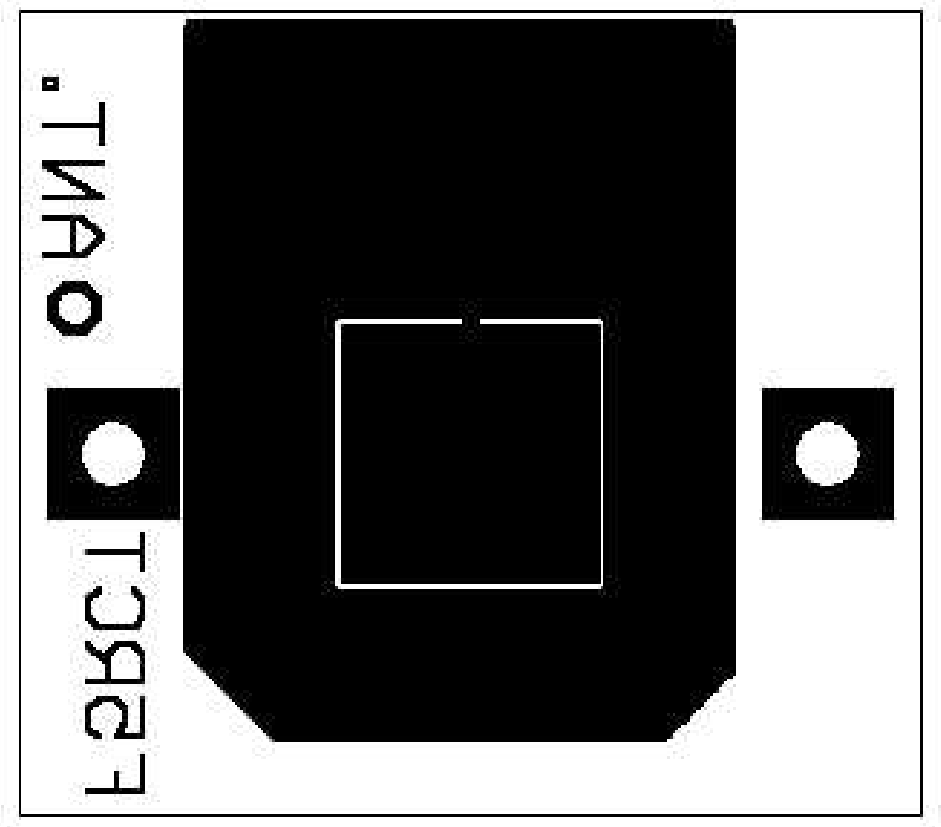


TABLEAU DES COMPOSANTS

BAT1	support pile CR2032 KEYSTONE-3002-THRU CR20XX
C1	1µF/X7R CMS 1206
C2	1nF CMS0 805
C3	39pF CMS 0805
C4, C5	47pF CMS 0805
C6	6,8pF CMS 0805
D1	BAS21 SOT23
IC1	40106D SO14
L1	220nH CMS 0603
L2	2,5sp;de fil de 5/10e de mm bobiné sur un foret de 3mm
L3	82nH CMS 0805
Q1	72,3MHz résonnance série overtone 3 SMD49
Q2	BFS17 transistor HF SOT23 code Farnell 1081301 ; ou 1056522
R1	10M CMS 0805
R2	1M CMS 0805
R3	33k CMS 0805

HISTOIRE par F4FUC

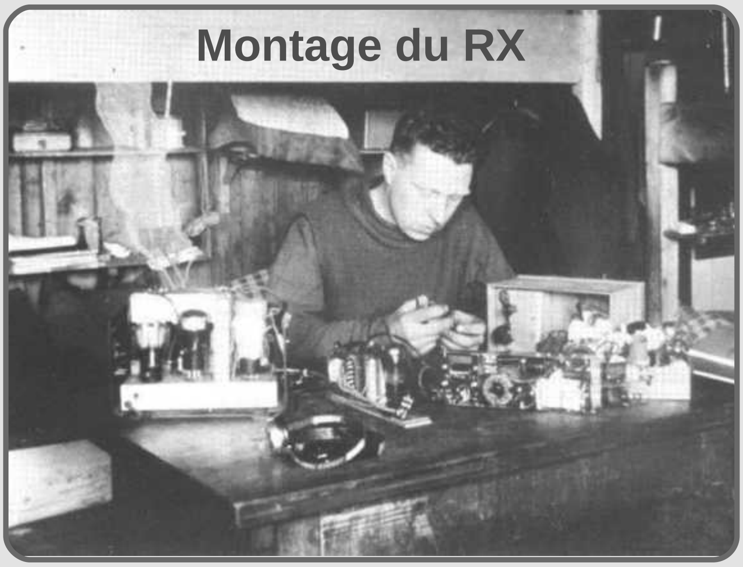
BARBARA, la radio clandestine aux Oflags VII B ET X D.

Ecoutes, poste dans la cloison

Pendant la seconde guerre mondiale, la radio fut un des moyens permettant de transmettre des informations. En France, les radios officielles, les radios allemandes et la BBC inondaient les auditeurs afin d'informer mais aussi pour désinformer et déstabiliser l'ennemi. En Allemagne, des officiers, prisonniers dans les OFLAG* se sont procuré des pièces détachées et ont assemblé des récepteurs clandestinement. Ces prisonniers ont donc réussi à écouter la radio dans les camps où ils étaient retenus. Malgré les fouilles, ils ont introduit ou assemblés des postes radios. Les pièces détachées étaient cachées soit dans des paquets subtilisés au bon moment, soit dans des caisses de charbon ou sous des piles de linge. Après écoutes, les nouvelles étaient manuscrites et distribuées aux autres baraquements...
BARBARA est née à la fin de l'année 1940 à Eichstätt en Bavière au bloc IV de l'Oflag VII B. Ce projet d'écoutes clandestines a germé dans le cerveau du Commandant BARBIEUX, du Lieutenant ANTOINE et du Sous-lieutenant DEFROYENNES. Grâce à cette activité clandestine, les « écouteurs » ont soutenu le moral des prisonniers durant les cinq années de captivité.

Ecoutes

Les prémices de BARBARA se sont manifestés à l'Oflag VII B sous forme de réception d'émissions en provenance de radio allemandes, mais également de postes émetteurs de Suisse Romande et Alémanique. Ces émissions étaient captées sur un poste à galène fonctionnant dans le cabinet du dentiste ROTY situé au bloc IV. L'antenne était constituée par une sorte de toile métallique. Le poste ainsi que les accessoires étaient dissimulés sous le parquet sur lequel se trouvait le fauteuil du dentiste. Au début, la précarité du matériel ne permettait pas d'assurer une écoute continue. Les nouvelles étaient diffusées dans le camp d'une façon anonyme et parfois accueillies avec scepticisme. Puis, peu à peu, le matériel, les conditions et les possibilités techniques d'écoutes s'étant améliorées, un service plus organisé de diffusion de nouvelles s'est créé dont s'était chargé le Lt VILLEE. Le service régulier de BARBARA s'était implanté profondément dans la vie quotidienne du camp. L'écoute des émissions en français, allemand et anglais devient permanente, tant de jour que de nuit.


Montage du RX

La sécurité des écoutes de jour était assurée par une équipe de surveillance de 2 ou 3 prisonniers. Ils se choisissaient entre eux parmi 70 volontaires. Les nouvelles reçues étaient transmises à un centre de rédaction situé à la baraque XII. Ce groupe assurait la "mise en page" des nouvelles reçues et la copie en 15 exemplaires du communiqué, avec "édition" spéciale en cas d'événement important. La sécurité de l'équipe de rédaction était totalement indépendante de celle d'écoute. Les communiqués étaient diffusés à un responsable de chaque baraquement qui en assurait la lecture puis la destruction. Le matériel d'écoute s'était multiplié dans la perspective d'assurer la survie du système. C'est ainsi que le réseau BARBARA a disposé de 6 récepteurs : 1 pour l'équipe extérieure de jour, 1 caché dans une cloison de la chambre du Lt Antoine, 1 pour l'écoute de nuit. Les 3 postes restants étaient tenus en réserve : 2 enterrés à proximité des chambres, le 3ème était dissimulé dans un espace vide entre la baraque XII et la baraque XIII. Ce dernier poste a été découvert au cours d'une fouille particulièrement sévère. A l'exception d'un récepteur, tous les appareils ont été construits à l'intérieur de l'OFLAG. Il est impossible de dire d'où venait ce matériel. Certaines pièces détachées étaient réalisées sur place et d'autres « importées ». Comment ? Par qui ? Nul ne le sait car, au sein du réseau Barbara, on évitait les questions.

Le 25 avril 1945, les militaires de l'Oflag X D ont été évacués par un détachement blindé anglais. Ainsi a pris fin l'aventure de BARBARA qui aura vécu près de 5 ans et s'est terminée dans l'euphorie de la victoire. L'utilisation de radios clandestines, à fonctionner en utilisant des cellules de collaboration étanches permettant une efficacité maximum avec un minimum de risques : matériel, écoute, surveillance et protection, rédaction et diffusion. Dans ces situations difficiles, la radio permit aux OM de garder le moral et de connaître des moments de liberté. Un des derniers membres du réseau BARBARA, monsieur Defroyennes est décédé cette année.

Service de la rédaction

Article réalisé avec l'aimable autorisation de M. Robert BRITTE, secrétaire et trésorier du CLHAM**.

* Oflag ou Offizier-Lager : Dans l'Allemagne nazie, nom donné aux camps de prisonniers destinés aux officiers.

Stalag ou Mannschaftsstamm- und Straflage, nom désignant un camp pour prisonniers de guerre non officiers.

** sources : CLHAM : Centre Liégeois d'Histoire et d'Archéologie Militaire www.clham.org.

73's de F4FUC

INFOS DX

Par F5IRO

6W – HA3AUI sera 6W2SC jusqu’au 09 mars 09

6W – DL1EFD sera 6V7N du 23 novembre au 05/12, QSL via home call

8Q - 8Q7SC du 25 novembre au 10 décembre

9M6 – MD0CCE sera 9M6/N2BB depuis Sabah OC088 du 25/11 au 01/12 QSL via MD0CCE

9J - 9J3A jusqu’au 02 décembre

C6 – N6BT KE7X K2KW seront respectivement C6ARR C6AKX C6ATA jusqu’au 01/12 QSL via (pour tous) WA4WTG

C9 – UY5LW sera C91LW jusqu’au 02 décembre, il fera le CQWW CW avec l’indicatif C8WW - QSL directe via home call

CE9 - CE9/CE3VPM Shetlands sud (Frei Montalva Base) jusqu’à fin novembre

E5 – JA1KAJ sera E51QQQ depuis OC 014 North Cook jusqu’au 09/12, QSL via home call

F – TM6TNB jusqu’au 27 novembre, QSL via bureau

F – TM8TEG jusqu’au 29 novembre

FK – F5AHO sera FK/F5AHO du 23 novembre au 05 décembre sur le cailloux en OC032 puis en OC 033 depuis LIFOU les 07 et 08 décembre et pour finir en à l’ile des Pins OC 032 les 10 11 et 12 décembre, QSL via bureau ou directe

G - call spécial GB617SQN jusqu’au 27 Novembre QSL via 2E0PRD

HC - HC2/SM6FKF HC2/SM6LJU HC2/SM7BUA HC2/SM7NDX du 25 au 30 novembre

HK0 - AA7JV, HA7RY, HA8MT et HK3JJH seront 5J0T de Bajo Nuevo (NA-132) entre le 23 Novembre et le 2 Décembre. L’entité DX sera San Andres. Ils participeront au CQ WW CW. QSL 5J0T via HA7RY (direct ou bureau), QSL HK0/HK3JJH via home call (direct ou bureau)

J5 – HA3AUI sera J5UAP jusqu’au 09 mars 2009

J49 - J49I Crête (EU-015) du 26 novembre au 01 décembre

OD – IV3YIM sera OD/IV3YIM jusqu’en avril 2009 QSL via home call

OD – W5YFN sera OD/W5YFN pendant un an à compter du 18 novembre

PJ4 – K4BAI KU8E W4OC NO2R seront PJ4A pour le CQWW en dehors du contest, PJ4/home call du 26/11 au 03/12 QSL pour tous via K4BAI

S21 – 29/11 au 04/12 St. Martin's (AS-127) par S21RC/S21AM/S21DM/S21S QSL via EB7DX

T31 - T31DX jusqu’au 30 novembre QSL via JA8BMK

T8 – HA7TM HA5AO seront respectivement T88CJ T88CI du 21/11 au 03/12 QSL home call

TO – F6AUS sera TO2HI depuis les Saintes (NA 114) jusqu’au 03 décembre et participera au CQWW CW

TO - TO3R île de la Réunion (AF-016) du 25 novembre au 06 Décembre

UR – call spécial EO15IVK du 21 au 30/11

VE – call spéciaux, CJ, CY, CZ jusqu’au 30 novembre

VU – call spécial VU2DSI sera AU2JCB jusqu’au 08/12

V2 - V26K Antigua (NA-100) du 26 novembre au 01 décembre

VP9 - Bermudes (NA-005) - OH3SR sera OH3SR/VP9 du 25 Novembre au 2 Décembre. Il participera au CQ WW CW QSL via home call

VP9 – OH1VR sera OH1VR/VP9 du 25/11 au 2/12 QSL via N1HRA participation au CQWW CW

XU – HB9BXE sera XV4BX Phu Quoc Island (AS-128) jusqu’au 30 novembre

XU – KC0W sera XU7XXX il participera au CQWW CW qsl direct home call

YE – YE2IPY jusqu’à fin novembre

YO2 - ON4XA et ON4BEA seront actif du 20 décembre 2008 au 2 janvier 2009 en YO2/ON4XA et YO2MBO depuis Ineu, Arad et Timisoara. QSL via home call (YO2MBO = ON4BEA)

YW - YW1TI Toas Island (SA-066) dernier week-end de novembre, QSL via IT9DAA

INDICATIFS SPECIAUX

Jusqu'au 02/12 - TC85TC
Jusqu'au 31/12 - E760DPR
Jusqu'au 31/12 - HG1848I
Jusqu'au 31/12 - HG550REX
Jusqu'au 31/12 - IN3IPY
Jusqu'au 31/12 - ON1000NOTGER
Jusqu'au 31/12 - ON1708M
Jusqu'au 31/12 - ON40BAF
Jusqu'au 31/12 - 9A08P
Jusqu'au 31/12 - 9A60A
Jusqu'au 31/12 - 9M1Cxx
Jusqu'au 31/12 - AY0DX (Argentine)

Jusqu'au 31/12 - C4EURO (Chypre)
Jusqu'au 31/12 - DR8M
Jusqu'au 31/12 - ON50WAASLAND
Jusqu'au 31/12 - ON55INR
Jusqu'au 31/12 - ON70REDSTAR
Jusqu'au 31/12 - PY100JA
Jusqu'au 31/12 - SB1658OZ et SC1658OZ (suède)
Jusqu'au 31/12 - SH1658DK et SH1658OZ (suède)
Jusqu'au 31/12 - SK1658DK et SK1658OZ (suède)

EN COURS

Jusqu'au 31/12 - VE2XB/VY0 Southampton Island (NA-007)
Jusqu'à mi-décembre - F4EGX est FT5YI depuis la base «Dumont d'Urville »
Jusqu'au 14 décembre - Sainte Marie (AF-090) - Eric, F6ICX est 5R8IC
Jusqu'au 18 décembre – ON5XX est OP0OL – QSL via home call
Jusqu'à fin décembre - ON4JM sera OD/ON4JM
Jusqu'à fin Décembre - HF0POL Henryk Arctowski Station (Shetlands sud)
Jusqu'à fin janvier 2009 – FM/F5IRO QSL via F5IRO
Jusqu'au 03 février - EA8/ON5JV et EA8/ON6AK (AF-004)
Jusqu'au 06 février - 9M2MRS Penang Island (AS-015)
Jusqu'à fin février 2009 - OD5/F5TLN
Jusqu'au 07 mars - VK2ABP est VK0BP depuis la base Davis
Jusqu'au 31 mars – J5UAP
Jusqu'au 31 mars – 6W2SC
Jusqu'à fin avril - VK2LNX et VK2FSNJ Maatsuyker Island (OC-233)
Jusqu'au 31/08/09 - VR2/F4BKV (AS-006)

Contests de la semaine 48

SKCC SPRINT – 26 novembre – CW

RSGB 80 M CLUB SPRINT – 26 novembre - CW

NCCC SPRINT - 28 novembre

CQWW DX – 29 /30 novembre - CW

SPECIAL CONTEST CQWW DX CW 29 - 30 NOVEMBRE
INDICATIFS ANNONCES

3X5A, GUINEE, QSL via G3SXW
4F1AL, PHILIPPINES, QSL via 4F1AL
5X1NH, OUGANDA, QSL via G3RWF
6Y1V, JAMAIQUE, QSL via OH3RB
9J3A, ZAMBIE, QSL via S53A
C6AKX, BAHAMAS, QSL via WA4WTG
C91LW, MOZAMBIQUE, QSL via UY5LW
CN2R, MAROC, QSL via W7EJ
CS9M, MADEIRE, QSL via LOTW
CU2A, ACORES, QSL via OH2BH
D4C, CAP VERT, QSL via CT1ESV
EE2W, ESPAGNE, QSL via EB2BXL
ER0WW, MOLDAVIE, QSL via UT3UA
FJ/WJ2O, ST BARTH., QSL via WJ2O
FM/F5IRO, MARTINIQUE, QSL via F5IRO
GU4YOX, GUERNESEY, QSL via GU4YOX
HP1RIS, PANAMA, QSL via HP1RIS
HS0ZGD, THAILANDE, QSL via HS0ZGD
IG9X, ILE ITALIENNE, QSL via IK1QBT
IR9X, SICILE, QSL via LOTW
J49I, CRETE, QSL via IK0EFR
J68VV, STE LUCIE, QSL via K5WW
KG6DX, GUAM, QSL LOTW OU DIRECT
KP2M, VIRGIN IS, QSL via AI4U
KP4EE, PUERTO RICO, QSL ?
LS1D, ARGENTINE, QSL via LW9EOC
LY7A, LITHUANIE, QSL via LY2ZO
OH3SR/VP9, BERMUDES, QSL OH3SR
OP4K, BELGIQUE, QSL via ON4JZ
PJ2T, ANTILLES NEERL, QSL N9AG
PZ5TT, SURINAM, QSL via VE3DZ
RK2FWA, KALININGRAD, QSL DK4VW
RT9A, RUSSIE AS. QSL via RZ9WWH
SX5R, DODECANESE, QSL ?
TM2S, FRANCE, QSL via F5PED
TO2HI, GUADELOUPE, QSL ?
TO4X, SAINT MARTIN, QSL via KQ1F
UN4L, KAZAKHSTAN, QSL ?
V47NT, SAINT KITTS, QSL via W2RQ
VK8NSB, AUSTRALIE, QSL via VK6NE
VP2MDG, MONTSERRAT, QSL K2DM
VP9I, BERMUDES, QSL via VP9I
XU7XXX, CAMBODGE, QSL KC0W (DIRECT)
XW1B, LAOS, QSL via E21EIC
YM0T, TURQUIE, QSL via TA2RC
YS4RR, SALVADOR, QSL LOTW + DIRECT
Z37M, MACEDOINE, QSL via Z37M
ZP0R, PARAGUAY, QSL via ZP5AL

5K0T, SAN ANDRES ET PROV. QSL via HA7RY
5B4AII, CHYPRE, QSL via RW3RN
6V7N, SENEGAL, QSL via DL1EFD
8Q7SC, MALDIVES, QSL via LOTW
AH0BT, ILES MARIANNES, QSL via 7L1FPU
C6AQQ, BAHAMAS, QSL via LOTW
CN2M, MAROC, QSL via OH2MM
CO8ZZ, CUBA, QSL via DK1WI
CT9L, MADEIRE, QSL via DJ6QT
CW5W, URUGUAY, QSL via CX6VM
E21EIC, THAILANDE, QSL via E21EIC
EF8M, ILES CANARIES, QSL via OH1RY
EY8MM, TADJIKISTAN, QSL via K1BV
FK8IF, NELLE CALEDONIE, QSL via FK8IF ?
FY5KE, GUYANE, QSL via FY1FL
HD2M, EQUATEUR,QSL via SM6FKF
HQ9R, HONDURAS, QSL via K5WW
IG9W, ILE ITALIENNE, QSL via IZ1GAR
IO4T, ITALIE, QSL via IZ4JMA DIRECT
J3/DL5AXX, GRENADE, QSL via DL5AXX
J49XF, CRETE, QSL via G3URA
JU1DX, MONGOLIE, QSL via JU1DX
KH6/NE1RD, HAWAI, QSL via NE1RD
KP2B, VIRGIN IS, QSL via EA7FTR (DIRECT)
LN3Z, NORVEGE, QSL via LA9VDA
LU8YE, ARGENTINE, QSL via EA7FTR
LZ9W, BULGARIE, QSL via LZ1PM
OH0Z, ILES ALAND, QSL via W0MM
P40W, ARUBA, QSL via N2MM
PJ4A, ANTILLES NEERL, QSL via K4BAI
RA9A, RUSSIE ASIATIQUE, QSL via RK9AWN
RL3A, RUSSIE, QSL via W3HNK
SV9CVY, CRETE, QSL via SV9CVY
T88CJ, PALAU, QSL via HA7TM
TM4Q, FRANCE, QSL via F5CQ
TO3R, LA REUNION, QSL via RW3RN
TO5X, MARTINIQUE, QSL via FM5BH
V26K, ANTIGUA, QSL via AA3B
VE6SV, CANADA, QSL via VE6SV
VK9AA, COCOS KEELING, QSL via DL8YR
VP5W, TURKS & CAICOS, QSL via W7TSQ
VU2PAI, INDE, QSL via VU2PAI (DIRECT)
XV4BX,VIETNAM, QSL via HB9BXE
YM3A, TURQUIE, QSL via LZ1NK
YN2Z, NICARAGUA, QSL via LOTW
YW4D, VENEZUELA, QSL via EA7JX
ZF2AM, CAYMAN, QSL via K6AM + LOTW
ZS4TX, AFRIQUE DU SUD, QSL via LOTW

Fabriquez votre alimentation 13,8V / 20A

Par F4CRM

Nous allons voir comment monter sa propre alimentation, sans trop rentrer dans les détails techniques. Je vais essayer de démystifier cet élément nécessaire dans une station radio.

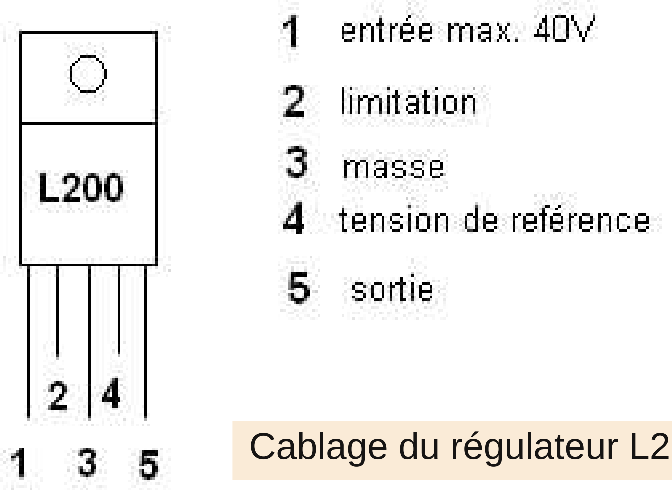
Attention au risque de choc électrique. Il faut toujours travailler hors tension, si vous n'étes pas sûr de vous pour prendre des mesures, faites vous aider par quelqu'un d'averti.

Le premier élément et le plus important c'est le transformateur. En effet c'est de lui que dépend la puissance disponible au final.
Rappel : un transformateur est composé de deux enroulements :
Le primaire, c'est celui qui est alimenté par votre prise électrique de 220V. Le passage de cette tension génère un champ magnétique au deuxième enroulement appelé secondaire, dont le nombre de spires est directement lié à la tension de sortie. Si le secondaire comporte plus de spires que le primaire, il s'agit d'un transformateur élévateur de tension, si c'est l'inverse c'est un transformateur abaisseur de tension, c'est le type de transfo. qui nous intéresse. Encore un dernier cas, juste pour information, si le nombre de spires au secondaire est égal à celui du primaire, il s'agit alors d'un transformateur d'isolement et la tension sera identique à l'entrée comme à la sortie. J'utilise un transformateur de type industriel pour mes montages. Ceux-ci sont de type 220/24V. Mais la tension de 24V est trop importante pour notre application, il faut donc enlever quelques spires d'enroulement sur le secondaire pour faire chuter la tension a 17V. Leur puissance est exprimée en volt/ampère VA, pour 200 VA nous aurons environ 10A sur 13,8V, pour 400 VA nous aurons environ 20A sous 13,8V et enfin pour 600VA, nous aurons environ 30A (en déroulant le secondaire du transformateur, celui-ci perd un peu de sa puissance) Une fois la tension proche de 17 à 19V il faut la redresser.

En effet, cette tension est une tension alternative et il nous faut une tension continue. Une tension alternative est une tension qui " change " de sens plusieurs fois par seconde, dans notre cas, on dit du 220V 50 hertz ce qui signifie que sur une période de 1 seconde cette tension va changer 50 fois de sens une fois positive un fois négative… Donc il faut redresser la tension de sortie au secondaire avec des diodes capables de laisser passer une intensité de 30A au moins. Un condensateur finira de filtrer l'ondulation résiduelle par sa capacité d'environ 2000µf par ampère. C'est à dire 2000µf X 20 ampères = 40 000µf 60V. En résumé nous avons une tension redressée et filtrée. Il faut ensuite la réguler pour piloter les transistors ballasts qui nous permettront d'avoir nos 20A.

La régulation :

Plusieurs types de régulation sont possibles avec deux principaux transistors qui sont le LM 317 par exemple et le L200. Ce dernier est de loin le plus pratique à mettre en œuvre puisqu'il supporte une intensité de 2 ampères, ce qui est intéressant pour piloter plusieurs transistors ballasts. Pour le montage du L200 voir le schéma ci-dessous.



Cablage du régulateur L200

La partie régulation va piloter les transistors ballasts en leur indiquant une tension de référence (13,8V). Ils sont les " gros bras " qui laisseront passer les ampères directement du pont de diodes. Voilà pourquoi, lorsqu'il y a un court circuit, la tension à la sortie de l'alimentation passe de 13,8V à presque 22V : c'est parce qu'en fait, ce qui claque, c'est la régulation dûe à une trop grosse demande des transistors, et comme la régulation ne régule plus, la tension de sortie est celle directement disponible sur le pond de diode, et ça fume !

Ensuite les ballasts :

LA TENSION DE REFERENCE FOURNIE PAR LA REGULATION EST APPLIQUEE SUR LA BASE, LE COLLECTEUR EST RELIE SUR LE + DU PONT DE DIODE, ET L'EMETTEUR VA DIRECTEMENT AUX BORNES DE L'ALIMENTATION, MAIS AVEC UN FIL DE GROSSE SECTION (5 AMPERES PAR MILLIMETRE CARRE).

Pour une intensité de sortie de 20A, il faudra du 4 mm² rigide ou du 6 mm² souple, parce qu'en électricité, lorsqu'on utilise du fil souple, on augmente d'une section. Par exemple 20a divisé par 5 (qui correspond à la règle 5A par mm²) = 4 mm² en fil rigide sinon 6mm² en fil souple (le 5mm n'existe pas en électricité courante !).

Les transistors seront bien sur installés sur un radiateur de taille adaptée, nous pourrons mettre aussi un ventilateur qui sera actionné soit par un interrupteur en façade, soit par un thermo-contact fixé sur le radiateur et qui déclenchera automatiquement la ventilation lorsque la température sera trop élevée.

Attention, lorsque j'entends qu'un transistor de type 2N3055 débite 15 ampères, c'est en pointe et cela peut être et sur un court instant.

Un 2N3055 fournit 5A max. (tension de travail) donc pour 20A il faudra 4 voir 6 transistors ou alors passer sur des transistors plus QRO tel que bux 14 par exemple…

Une dernière chose, ou plutôt trois dernières choses :

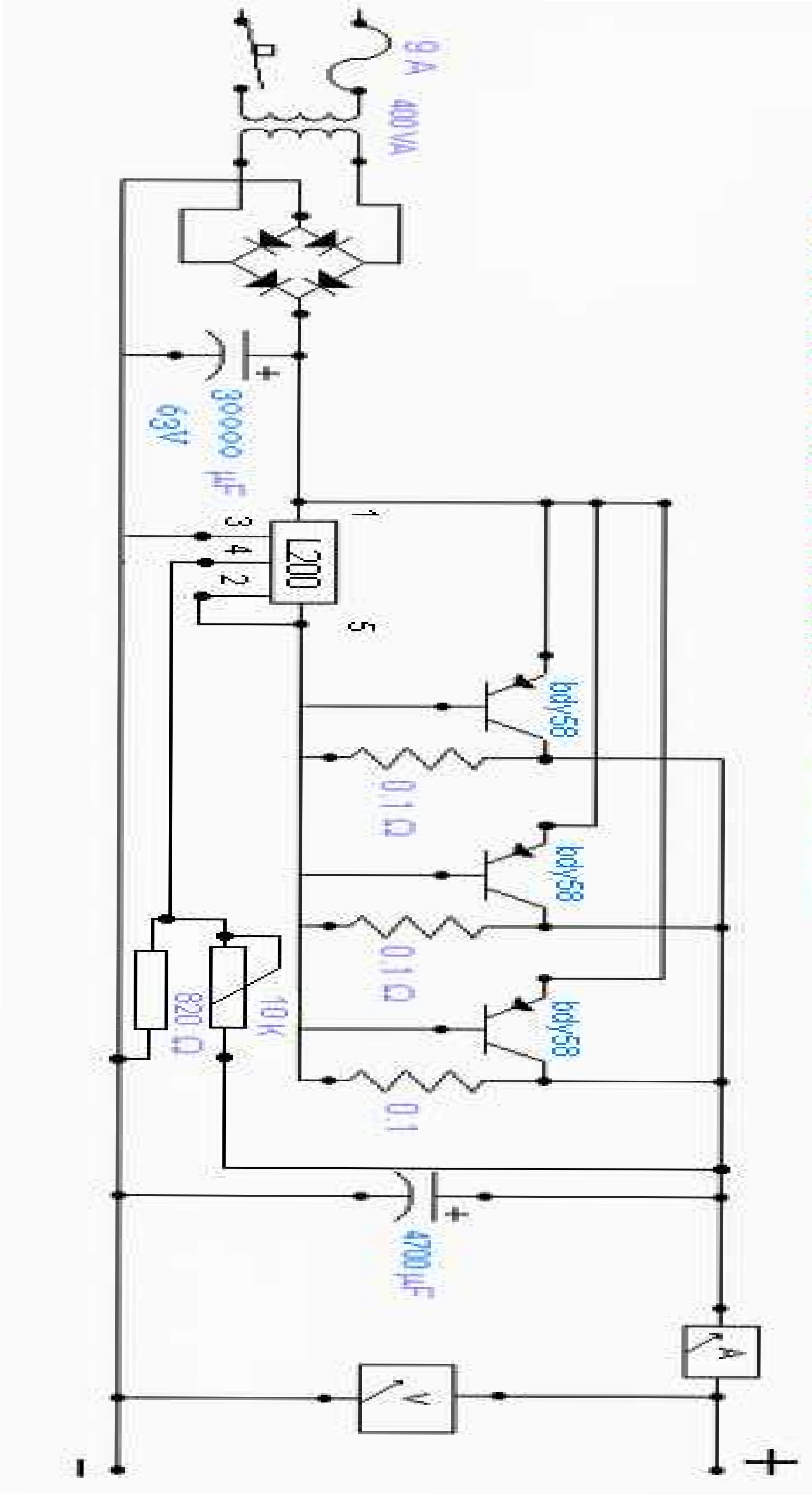
=> Il faut mettre une résistance d'équilibrage entre l'émetteur et le collecteur de chaque transistor ballast.
=> Prévoir aussi un fusible de protection pour protéger d'une surintensité sur les bornes de sortie d'alim.
=> Enfin, ne pas oublier le filtrage final par des condensateurs. Celui ci est primordial pour lisser le courant et éliminer les ronflements éventuels de l'émetteur. Il faudra plusieurs condo. de 2200µf ou 4700µf en parallèle entre le plus et le moins.
(attention aux polarités sur les condensateurs, le fil rouge sur le bouton rouge et le fil bleu sur…HI !)

A la mise sous tension, il faudra ajuster la tension de l'alimentation à 13,8V par le potentiomètre de la régulation. Vérifier aussi la chute de tension en charge.

Voilà ! Elle est faite votre alimentation stabilisée ! Cette description et en réalité bien simplifiée mais déjà ce sont les bases pour la réalisation d'une bonne alim. …

VOIR LE SCHEMA EN PAGE SUIVANTE...

alimentation stabilisée 13.8V 20A



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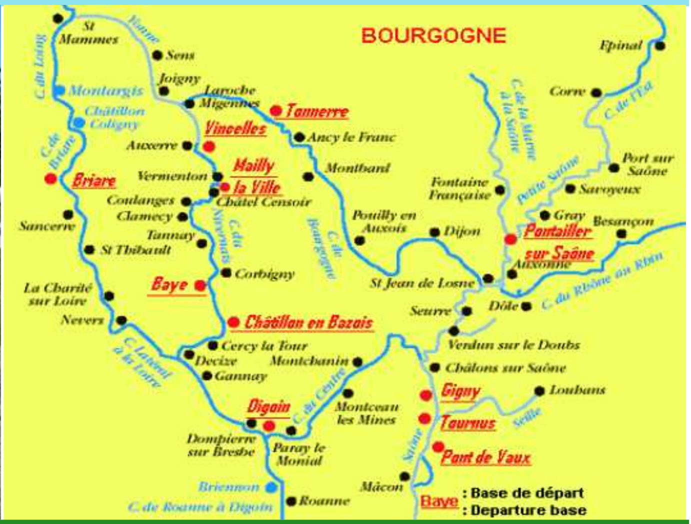

8ème expédition péniche JUIN 2009
du samedi 13 au samedi 20 JUIN 2009

Info à Olivier Barbieux (F6HZF)
06 15 92 35 00 F6HZF@libertysurf.fr

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LES RÉALISATIONS DE LA **LIGNE BLEUE**
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Idée de PY2OHH - Conception & réalisation F6BCU

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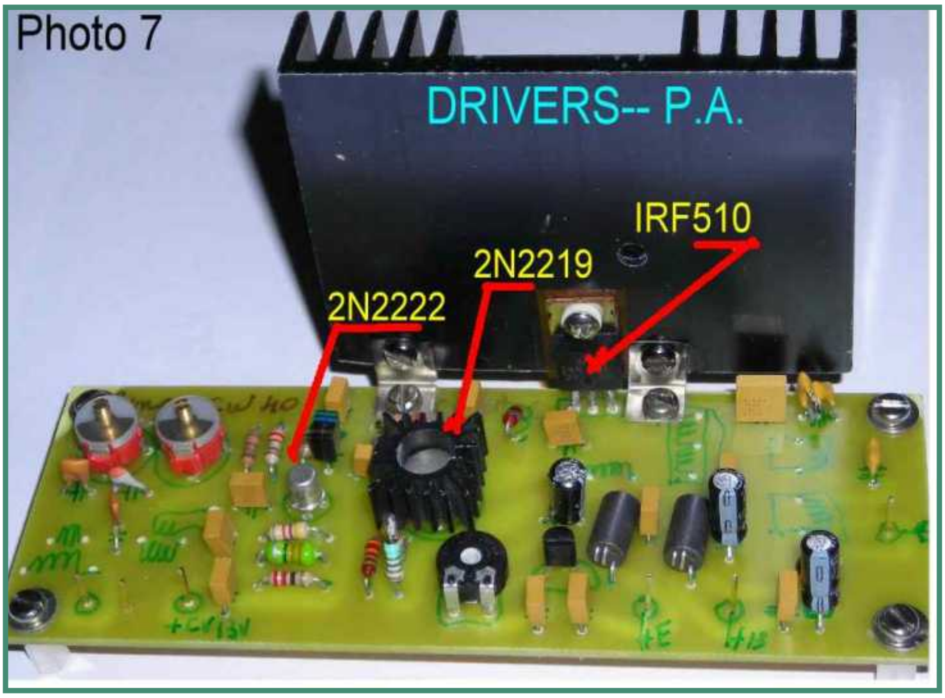


I—DRIVER ET P.A. (identique sur BING0 CW 40 et BINGO–DUO SSB CW 40)

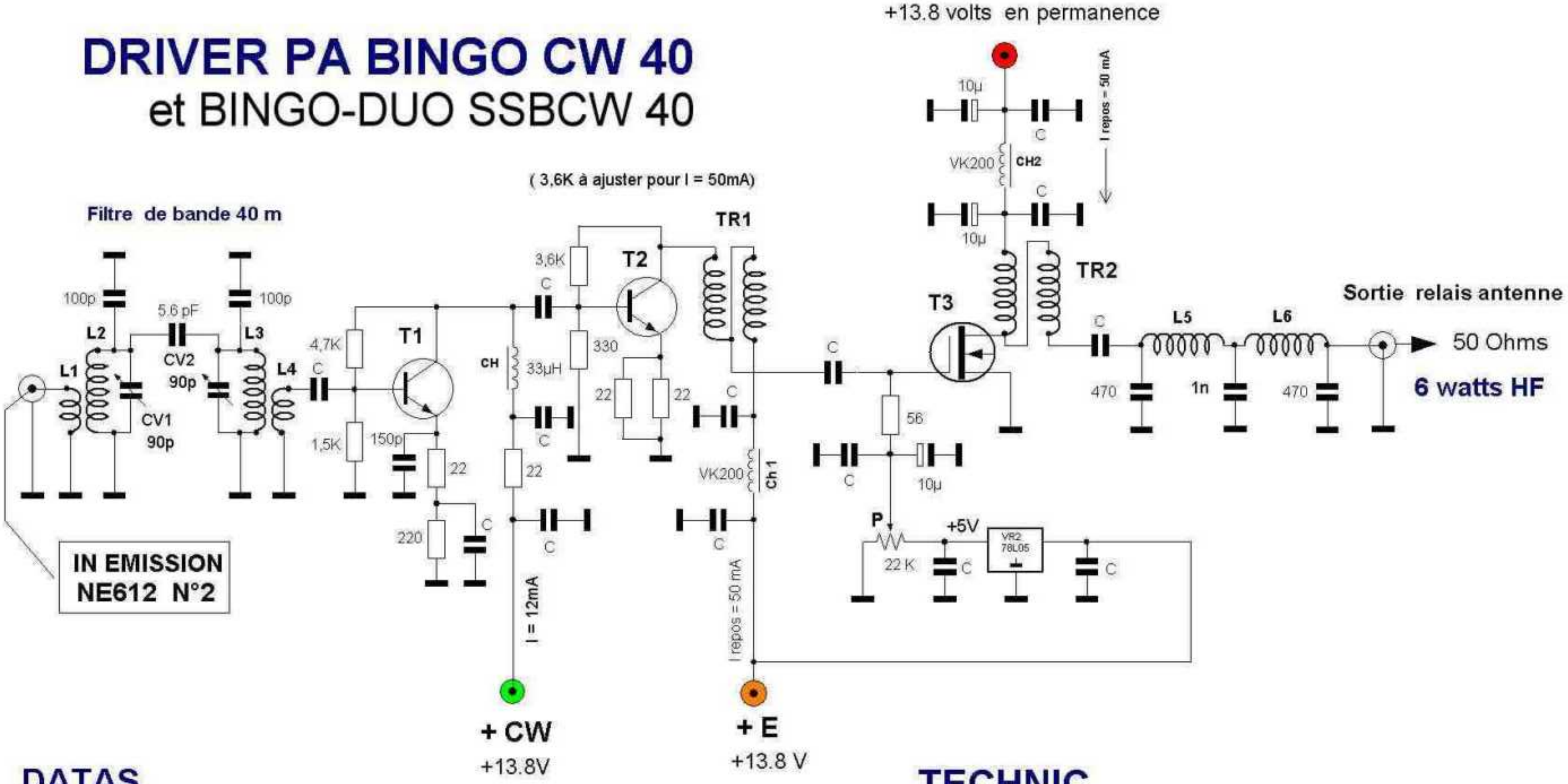
Il y a quelques années, l'approvisionnement en transistors d'émission dont la grande majorité était issue de la période Citizen band, facilitait la construction d'étages émissions de petites puissances pour un prix attractif. Mais récemment, avec la mise en vente sur le marché de copies, avec des caractéristiques fantaisistes, les problèmes rencontrés et la non-fiabilité des montages dans le critère de la reproductibilité, nous ont amenés à nous orienter vers les Mosfets. Ces transistors à vocation industrielle, sont utilisés dans la technique de la commutation rapide de haute puissance.

Il s'avère que certains Mosfets courants disponibles chez les revendeurs fonctionnent fort correctement en émission, pour un prix de 1 à 2 €uros. A l'usage, l'expérimentation et les mesures mettent en évidence certaines règles pratiques, une base pour leur utilisation en émission. Ils deviennent pour le radioamateur source d'un renouveau dans la manière de faire de l'émission HF à petite ou forte puissance.

L'étage de puissance qui équipe le transceiver BINGO –DUO SSBCW 40 actuel est le résultat de nombreuses expérimentations de l'auteur F6BCU.
La simplicité du montage pour la puissance de sortie qui dépasse les 4 à 6 Watts HF démontre que les Mosfets du type IRF510 bien que non prévus pour l'émission fonctionnent d'une manière admirable.

SCHÉMA DRIVERS—P.A. (identique sur BINGO CW 40 et BINGO-DUO SSB CW 40)

DRIVER PA BINGO CW 40
et BINGO-DUO SSBCW 40



DATAS

L2 = L3 = 25 spires fil 4/10ème émaillé sur Tore T50/2 rouge Amidon.
L1 = L4 = 9 spires file isolé sous plastique 4/10 sur L2-L3 sens inverse.
L5 = L6 = 13spires 4/10 émaillé sur tore T50/2 rouge Amidon
TR1 = 10 spires bifilaire 4/10 émaillé sur Tore 37/43 Amidon
TR2 = 10 spires bifilaire 4/10 émaillé sur Tore 50/43 Amidon
CV1 = CV2= ajustable plastique 90pf rouge ou 106 pF violet
P = résistance ajustable 22K genre Piher
78L05 = Régulateur 5 V 100mA
CH = self de choc 33uH- CH1= CH2 = VK200 ou 8 tours fil 5/10 sur 37/43
T1= 2N2222 ou 2N3904 --- T2 = 2N2219 ou 2N2219A --- T3 = IRF510

TECHNIC

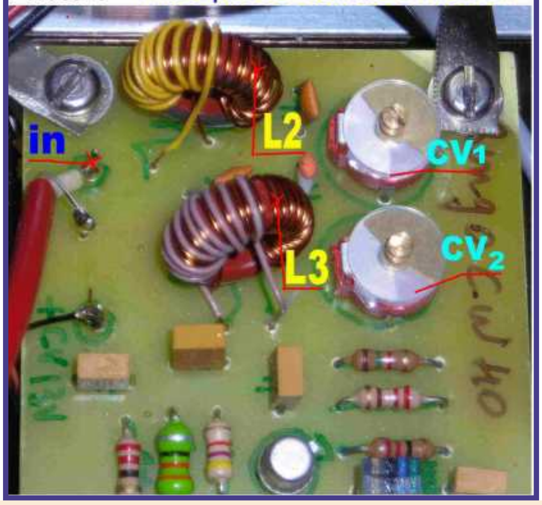
Courant repos IRF510 = 50 mA
Courant Max IRF510 sous 13.8 V = 1A
Courant collecteur 2N2219 = 50 mA maximum
Courant collecteur 2N2222 = 10 à 12 mA

FIGURE 2

Dessin F6BCU 21/01/2008 La Ligne bleue

DRIVER PA BINGO SSB ou CW

Photo 8 Filtre passe -bande émission



L’étage amplificateur Driver se compose d’un double filtre de bande (L2, L3) accordé sur 40 m et d’un amplificateur large bande composé de 2 transistors en cascade : un 2N2222 et un 2N2219.
Le signal HF disponible sur la pin 4 du mélangeur NE612 N°2 n’excède pas une fraction de mW HF. Il faut presque 30dB de gain pour atteindre 100 à 150 mW HF dans la bande 40m pour exciter correctement l’étage de puissance (PA).
L’étage driver proposé n’est pas une nouveauté car utilisé par d’autres constructeurs. Nous avons retrouvé ses origines dans le manuel de l’Atlas 210X (avec d’origine un 2N2222 et 2N3866) ; il est de conception simple avec des composants ultra-courants. Sur 40 m le Driver 2N2219 permet de faire atteindre facilement 4 à 6 Watts HF à la sortie du PA Mosfet IRF510.

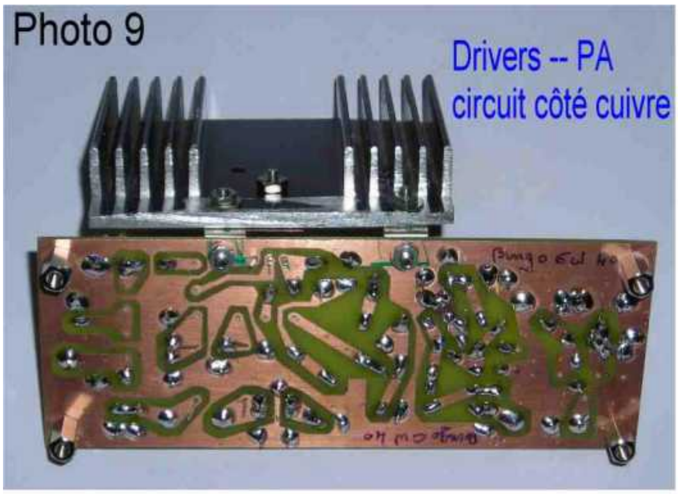
SPÉCIFICITÉS DU DRIVER

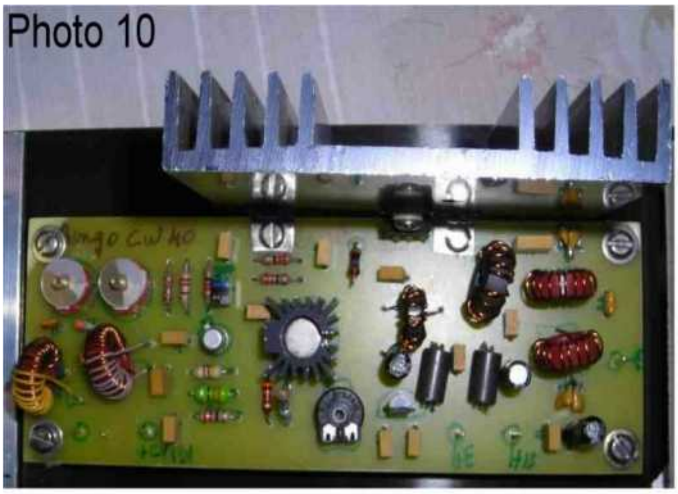
La première remarque est l’importance des cellules de découplage (self de choc et condensateurs), côté alimentation des collecteurs pour éviter tout risque d’auto-oscillations. Le courant drain du transistor T1 (2N2222) s’établit à 10mA environ mais peut monter à 12mA en fonction de la dispersion des valeurs des composants. Le transistor T2 (2N2219) est équipé d’un solide radiateur, bien que son courant Drain soit limité à 50mA. A cette valeur de courant drain, l’échauffement du transistor est encore raisonnable.
Un courant supérieur n’apportera pas plus de puissance, mais un fort échauffement.
Avec un courant de 50mA dans T2 et 13.5 à 13.8 Volts de tension alimentation, l’impédance de sortie avoisine 200 Ω.
Cette impédance de 200 Ω permet par l’intermédiaire de TR1 transformateurs large bande de 4/1 d’abaisser à 50Ω l’impédance sur la Gate de T3.

FILTRE DE BANDE ENTRÉE HF

Le double filtre de bande L2 et L3 d’entrée est spécialement étudié au niveau de L1 et L4, qui ont des enroulements de valeurs peu communes, notamment 9 spires pour L1 et 9 spires pour L4.
Avec ces valeurs d’enroulements, vous tirerez le maximum de HF du PA IRF510 c’est à dire de 4 à 6 watts HF. Nous rappellerons que dans nos premiers essais avec le filtre de bande, voulant travailler sous 50 Ω avec L1 et L4, et ne disposant que de 3 à 5 spires sur L1 et 4 spires sur L4, la puissance de sortie ne dépassait pas 2 à 3 watts HF. Après modification de L1 et L4 dans le sens de l’élévation des impédances, la puissance a plus que doublé. Le NE612 a ses entrées et sorties sur les mélangeurs à Z = 1000 à 1500Ω. Le fait de travailler en basse impédance sur les différentes portes (pin ou pattes) du NE612 est un facteur de stabilité en HF, mais le rendement s’en ressent.

ÉTAGE P.A (power amplifier)





FONCTIONNEMENT DE L'IRF510 P.A. EN ÉMISSION

Polarisation

Contrairement aux transistors bipolaires NPN courants en émission ces dernières années, et polarisés faiblement (+), avec les Mosfets c'est l'inverse, ils doivent être fortement polarisés positivement. NPN ou Mosfet ont un point commun : la polarisation 0 volts est la classe C et aucun courant Collecteur ou Drain ne se manifeste. Nous verrons ultérieurement l'intérêt de cette classe C.

Le premier point est la polarisation variable de la Gate par un système régulateur 5 volts (78L05) et ajustage d'une tension variable entre 0 et + 5 volts sur la Gate par résistance ajustable P de 5K.
Le Drain est alimenté de 13.5 à 13.8 volts. Pour une tension de 3,6 à 4,4 volts (valeur moyenne) le courant Drain commence à se manifester. Il sera fixé à 50 mA (attention au réglage le courant monte rapidement et peut dépasser 2 à 3 Ampères).

Le deuxième point est la fonction travail de la Gate qui d'origine est en très haute impédance (100K à 1MΩ.). L'expérimentation radioamateur a fixé certaines règles pour éviter toutes instabilités et auto-oscillation dans le fonctionnement du Mosfet en émission.

Impédance Gate

Il faut artificiellement fixer en basse impédance l'entrée Gate des Mosfets par une résistance de 10 à 50Ω découplée à la masse et véhiculant la tension de polarisation. Autre précision, la tension de polarisation s'exprime en volts on ne parle pas d'intensité. Dans certains montages, en série avec la 50Ω on met une résistance de 10K, ce qui n'affecte pas la tension de polarisation, mais confirme que la notion de courant de Gate ne peut se justifier, la tension de polarisation étant considérée statique.

Impédance Drain

En général on devrait retrouver sur le Drain du Mosfet de commutation (IRF510) une impédance sensiblement égale à celle de la Gate mais l'expérimentation démontre que cette impédance est très sensible à la variation d'intensité du Drain et souvent ne coïncide pas (très voisine de10Ω).

Pour exploiter un signal HF en sortie de Drain, l'impédance est portée à 50Ω à l'aide du transformateur Tr 2 de rapport 1/4 (1 x 4 = +/- 50Ω). Un filtre « passe bas » traditionnel (L5, L6 et capacités annexes) supprime les harmoniques indésirables et sort sur antenne sous 50Ω. En fait, on essaye d'adapter les impédances de Gate à Drain mais il n'existe aucune règle absolue.
Côté alimentation du drain, insertion de 2 cellules de découplages avec VK200, 2 condensateurs de 100nF et 2 condensateurs électrochimiques de 10µF (il ne faut pas négliger l'utilisation des électrochimiques, les 100nF sont insuffisants).

Refroidissement du P.A.

Le Mosfet IRF510 délivrent 4 à 6 watts HF, considérant que le rendement est de 50%, il consomme en entrée sous 1 3.5 à 13.8 volts environ 0.9 Ampères, 10 à 12 watts input (entrée). Cette consommation engendre obligatoirement une dissipation de la moitié de la puissance en chaleur (rendement 50%) et il faut mettre un bon radiateur de dimension minimum de 5 x 10 cm.

Remarque de l'auteur :
Le radiateur au toucher même après plusieurs minutes de trafic doit être toujours froid. Sous cette condition de froid, le Mosfet thermiquement reste neutre en fonctionnement ; pas d'emballement thermique, stabilité du point de polarisation, constante dans le temps du courant de repos de 50 mA du P.A., excellent rendement en émission. Nombreux sont les montages de transceiver indiquant des puissances généreuses en émission ; un regard sur le radiateur minuscule du P.A. cache une mauvaise dissipation thermique ou une puissance HF surévaluée (critère publicitaire).

SIMPLIFICATION DE LA COMMANDE ÉMISSION

Tous les transceivers BINGO version 2007 et 2008 sont équipés au P.A. d'un transistor Mosfet. Une nouvelle technique issue de l'expérimentation facilite leur utilisation. Désormais l'alimentation côté Drain ne requiert aucun relais de commutation pour l'émission. Le +13.5 ou +13.8 volts est maintenu branché en permanence sur le Drain. La commande émission du P.A. s'effectue au niveau de la polarisation. Sans nous contredire sur certains articles précédents, notamment au niveau de la commande émission des P.A. de puissance à Mosfet, où il était vivement conseillé de ne jamais dépolariser la Gate.

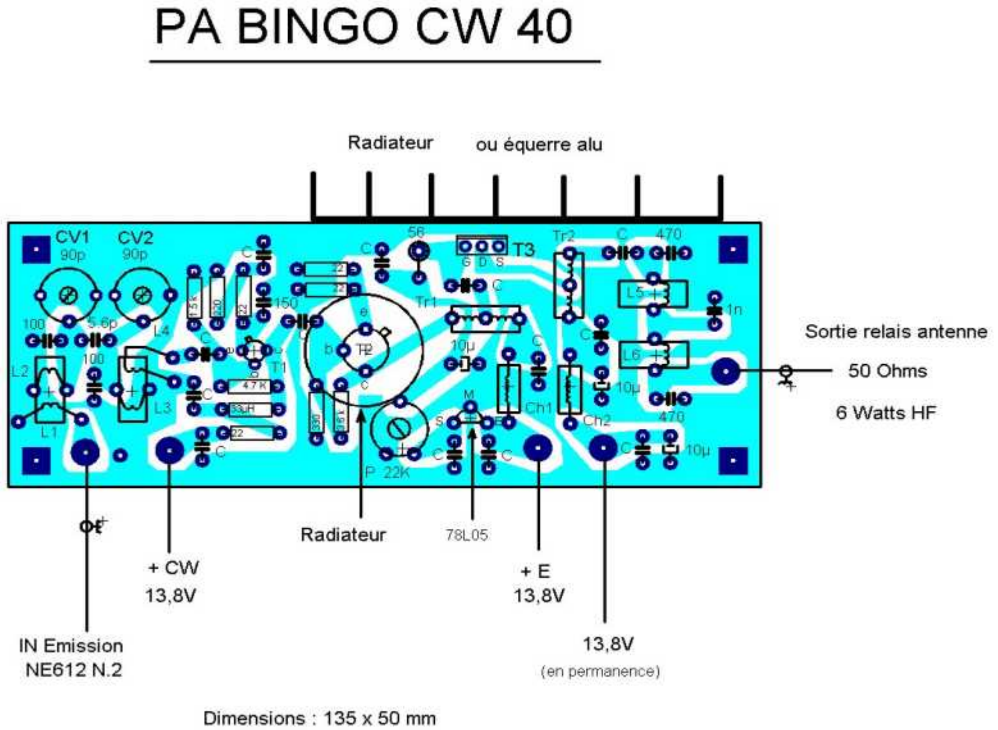
La Gate de l'IRF510 est toujours maintenue polarisée par la partie de la résistance ajustable P (22K) dont l'une des branches est reliée en permanence à la masse (polarisation zéro volt). Techniquement, si le régulateur 78L05 n'est pas alimenté en position émission, la gate reliée à la masse, confère au transistor Mosfet une polarisation nulle et le fait travailler en classe C sans courant Drain. Cette caractéristique simplifie tout et supprime un relais pour alimenter le Mosfet en émission. Il est désormais commandé seulement en émission au niveau du régulateur alimenté sous + 13,5 ou 13.8 Volts et inactif en réception car polarisé naturellement en classe C.

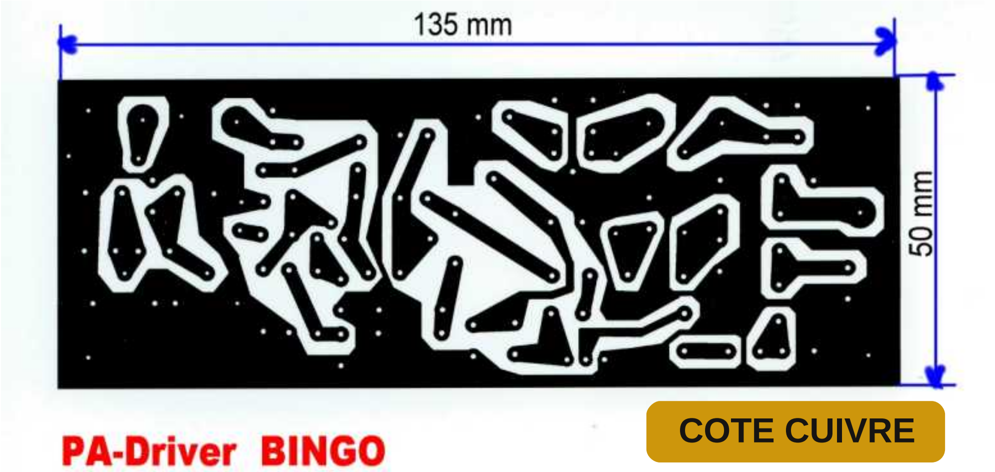
.

CIRCUIT IMPRIMÉ DRIVER—P.A.

Pour être reproductible par tous un circuit imprimé unique a été édité avec l'implantation des composants et le circuit côté cuivre à l'échelle 1/1. Ce circuit a été conçu avec des pistes larges, les dimensions en longueur 135 mm.

CIRCUIT DRIVER P.A.





COTE CUIVRE

DÉTAIL DES COMPOSANTS :

L2 = L3 = 25 spires fil 4/10ème émaillé sur tore T50/2 rouge Amidon
L1 = L2 = 9 spires fil isolé sous plastique 4/10ème sur L2-L3 en sens inverse,
L5 = L6 = 13 spires 4/10ème émaillé sur Tore T50/2 rouge Amido
TR1 = 10 spires bifilaire 4/10ème émaillé sur Tore 37/43 Amidon
TR2 = 10 spires bifilaire 4/10ème émaillé sur Tore 50/43 Amidon
CV1 = CV2 = ajustable plastique rouge 90pf ou 106pF violet
P = résistance ajustable 22K genre Piher
78L05 = Régulateur 5 V 100mA
CH = self de choc 33µH-----CH1 = CH2 =VK200 ou 8 tours Fil 5/10ème sur 37/43
T1 = 2N2222 ou 2N3904 ---- T2 = 2N2219 ou 2N2219A----T3 = IRF530
Courant de repos IRF510 = 50 mA
Courant maximum IRF510 sous 13,8V = 1 A
Courant collecteur 2N2219 = 50 mA maximum
Courant collecteur 2N2222 = 10 à 12 mA

II—FINALISATION ET RÉGLAGES .

Côté construction

Le schéma général dans la 1ère partie vous informe sur le câblage général raccordant tous les éléments et composants divers de façade, d'intérieur et d'extérieur constituant le transceiver BINGO-DUO SSB CW 40. La version expérimentale est présentée, construite sur un panneau en époxy cuivré simple face de 20 X 30 cm. Ces dimensions vous serviront de repaires pour l'implantation future des différentes platines et éléments constituant le transceiver.

Le transceiver BINGO–DUO SSB CW 40 mètres est la synthèse des constructions de la gamme BINGO. L'indépendance des fonctionnements en SSB et CW va nous faciliter les réglages.

Côté réglages SSB

1** Il faut basculer le contacteur SSB/CW en position SSB pour pouvoir alimenter le générateur SSB en émission.

2** Vous reporter au 1er article traitant de la construction du Générateur SSB BINGO intitulé : «Construire son transceiver QRP HF ou VHF mais c'est très simple avec le Générateur BINGO» et consulter la partie réglages.

3** Reprendre l'article «Transceiver BINGO SSB 80 et BINGO SSB 40» dans la partie réglages réception et réglages émission. Ces 2 parties sont bien distinctes.

Côté réglages CW

- Basculer le contacteur SSB/CW en position CW. De base si les réglages en SSB fonctionnent :

- Vérifier le bon fonctionnement de la commande PTT micro, du passage émission réception, en CW, passage en émission sur un coup de manipulateur et tonalité de CW dans le Haut-parleur de contrôle.

- Ajuster à votre convenance la puissance de la tonalité de CW et le temps de retombée du relais d'antenne en position réception (commande DELAY CW).

Sur le Générateur CW la résistance ajustable P de 4.5K est à ajuster pour la puissance CW requise de 0 à 5 watts HF.

Réglage du décalage 600 à 800Hz en émission CW

- La réception est réglée en SSB on n'y retouche pas.

- Brancher un transceiver sur charge fictive position 10W et émettre en CW sur 7.020 KHz par exemple et écouter la CW sur le BINGO-DUO avec une tonalité de 600 à 800 Hz.

- Brancher le BINGO DUO sur charge fictive et émettre en CW avec 4 Watts HF, tourner le condensateur ajustable de 90 pF du générateur CW pour s’écouter sur le transceiver commercial en position CW avec une note de 600 à 800 Hz.

- Refaire l’opération inverse émettre avec le transceiver commercial en CW ; réception sur le BINGO-DUO de la CW à 600 à 800 Hz.

Nos réglages sont terminés nous pouvons faire un QSO CW d’une station à l’autre, sur l’air il en sera de même.

Remarque de l’auteur.
Si vous pressez le manipulateur en position SSB il y a génération d’une porteuse, mais la note CW, n’est pas pure il existe un résiduel de porteuse SSB et deux tonalités. Pour trafiquer en CW, utiliser la position mode CW.

Position TUN

En parallèle sur la commande (KEY) manipulateur, par bouton poussoir (en façade) nous activons le TUN, pour générer une porteuse et assurer le réglage d’antenne. La porteuse générée en position CW est décalée par rapport à la SSB donc inaudible sur un QSO.

CONCLUSION

Le BINGO-DUO SSB CW 40 est un transceiver très complet pour le trafic en portable cette version de l’article, utilise une F.I. de 10,240 MHz ; la version avec une F.I. de 9,830 MHz est en préparation.
Prochainement va sortir un BINGO-DUO SSB CW 20 mètres avec un V.F.O.—P.T.O.
Quant à la platine émission Driver–PA elle sera identique à celle que nous utilisons sur 40m.
Des tests effectués sur 20 mètres, se sont 4 à 5 watts HF SSB CW qui sont disponibles avec un IRF510 sous 13.8 volts.

Fin de la 3ème partie

F8KHM –Radio club de la Ligne bleue –- SAINT DIE DES VOSGES
F6BCU- Bernard MOUROT—9 rue de Sources—REMOMEIX--VOSGES
31 octobre 2008

BINGO CW 17 M
Transceiver opérationnel le 9/11/08 5 Watts 5 HF
QSO CW 579 US3IK 18.070 KHz

Un nouveau Transceiver BINGO CW vient de faire son premier QSO en télégraphie, bande des 17 m sur 18.070 KHz avec US3IK à 579.
Il s'agit de la dernière construction de F6BCU qui était prévue pour le printemps 2009, mais qui a été avancée par la nécessité de donner un sérieux coup de main à la revue Ham-Mag. Ce Nouveau transceiver BINGO CW 17 sort 5 Watts HF sur 17m, l'étage de puissance est identique au BINGO DUO 40 SSB CW. et au nouveau Bingo DUO 20 SSB CW (article en cours de rédaction). L'interchangeabilité des circuits est démontrée, nous arrivons d'un transceiver à l'autre de 80 à 17 m pour l'instant, à utiliser quasiment les mêmes circuits imprimés, sauf que bien entendu, il faut modifier quelques valeurs de composants en fonction de la bande de travail. Cette interchangeabilité amène le nouveau terme de MECANO BINGO. Le transceiver BINGO SSB 17 est en cours de construction. **73 de F6BCU**

F6HQY Une Antenne entre les dents

Bernie de F6HQY nous propose sur un ton comique et incisif, une nouvelle concernant notre monde radioamateur. A prendre au second degré, cette nouvelle en plusieurs parties s'intitule :

CHATEAU FOIREUX (8ème partie)

Toute ressemblance avec des personnages existant ou ayant existé est fortuite et involontaire de l'auteur.

Ils roulèrent un moment sans parler, digérant tant bien que mal ce qui venait de se passer. Jacques fût le premier à rompre le silence alors qu'ils abordaient la route nationale :

- Bon, le moins qu'on puisse dire est que cette activation s'est mal passée. Je ne sais pas qui a eu cette idée à la noix mais il est clair qu'il aurait mieux fait de se taire !

Cédric sentit la moutarde lui monter au nez :

- Dis donc, président d'opérette ! Qui c'est qui a choisi ce château habité par un alcoolique raide dingue ! C'est moi, peut être ? Parce que pour le reste, je te signale que tout était au poil ! En attendant, tu avais raison André, c'est clair que je ne verrai pas souvent un truc comme ça !

- Oui, oui, ne te fâche pas... En fait, tout se serait bien passé s'il n'y avait pas eu ce putain d'ampli...

André explosa :

- Ha ! Nom de Dieu ! J'étais sûr que ça allait encore me tomber dessus ! Non mais je rêve ! Je me fais démolir ma voiture neuve, je suis blessé par des éclats de verre, l'autre me fait picoler du vin alors que je ne bois jamais et que je vais certainement être malade demain, mon ampli est mort, et vous avez le culot de me faire porter le chapeau de ce fiasco !

- Calme toi, fît Jacques, personne ne t'accuse... Mais bon, si l'ampli avait fonctionné... Entre parenthèse, je me demande bien pourquoi il a sauté comme ça. Tu l'avais vérifié avant non ? Il marchait ?

André se sentait un peu merdeux sur le coup, il n'avait en réalité rien vérifié du tout. Il espérait simplement que la fine équipe ne se servirait pas du truc. Voilà tout. Il fît :

- Oui, oui... Je me demande s'il n'y avait pas trop de jus sur le compteur de l'autre cinglé... Comme les capas étaient vieilles... Tu avais bien branché la terre, Robert ?

- Ben oui, pour qui tu me prends !

En vérité, il ne l'avait pas fait, le compteur devait dater de la seconde guerre mondiale et il avait dû bricoler des épissures pour brancher le secteur. Quant à la mise à la terre, il ne l'avait pas vue... Cela ne l'empêcha pas de rajouter :

- C'est pas parce que je n'ai pas un call à deux lettres que je ne sais pas brancher une prise sur le 220 !

- Bon, on ne va pas s'engueuler, on a suffisamment dégusté aujourd'hui. Au fait, j'y pense, qu'est-ce qu'on fait pour l'incendie ? Faudrait pas que l'autre naze crame dans sa baraque !

- On a qu'à s'arrêter dans un bar et téléphoner aux pompiers. En plus, j'ai besoin d'un petit remontant. Je crois d'ailleurs que nous en avons tous besoin...

Quelques minutes plus tard, ils s'arrêtèrent dans un routier qui bordait la nationale, et, pendant que Robert commandait une tournée de cafés arrosés d'une goutte de gnôle, Jacques s'enfermait dans la cabine téléphonique pour faire le 18 :
- Allo, les pompiers ? Je vous appelle pour signaler un début d'incendie au Château Foireux... Quoi, comment je m'appelle ? Qu'est-ce que ça a à voir ? Je me promenais dans le coin et j'ai vu de la fumée, voilà tout ! ... Bon, ben vous faites comme vous voulez mais je vous aurai prévenus. Si le vieux clabote, ce sera de votre faute.

Il rejoignit les autres après avoir raccroché et commanda une autre tournée pendant qu'André notait sur son carnet les coordonnées d'un carrossier « à la coule » selon Robert. Ils discutèrent ensuite du matériel qu'ils avaient laissé sur place afin de voir s'il n'y avait pas quelque chose à récupérer. Mais tout était mort et, surtout, personne n'avait envie de retourner là bas pour risquer de prendre un coup de fusil. De plus, il y avait un tel bordel chez le Vicomte que les diverses épaves qu'ils avaient laissées passeraient certainement inaperçues. Cédric paya une troisième tournée puis ils décidèrent de rentrer, chacun en avait ras la casquette de cette affaire et souhaitait retourner chez lui le plus vite possible pour tout oublier.

Le Scénic mit le cap vers la ville sur le coup de quinze heures trente, André ayant repris le volant pour sauver ce qui pouvait l'être de sa belle voiture neuve. Le soleil continuait de briller, semblant faire de l'œil à la fine équipe pour lui signifier que tout allait bien, que ce n'était pas la peine de se prendre la tête.

A suivre...

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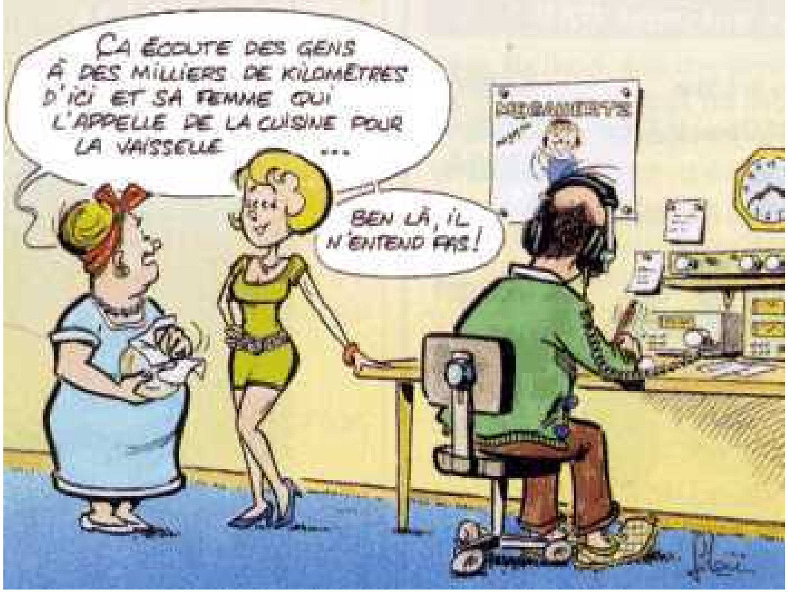
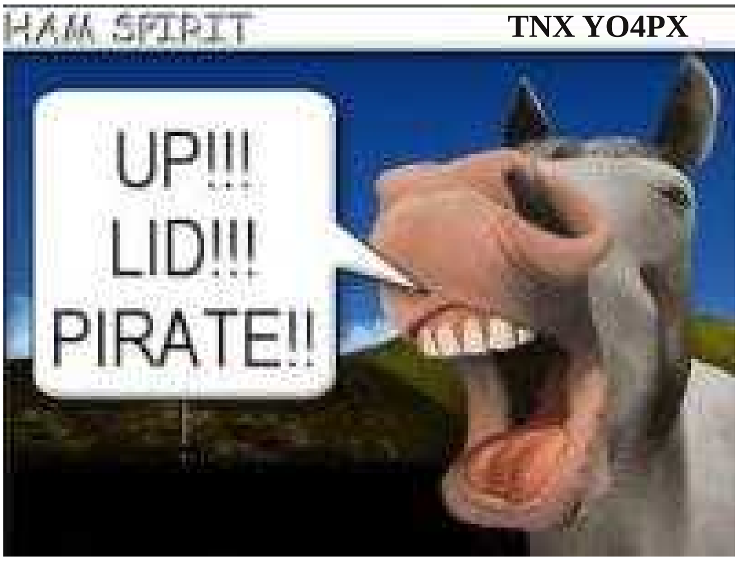
COMIC'S HAM

La rubrique détente


ÇA ÉCOUTE DES GENS À DES MILLIERS DE KILOMÈTRES D'ICI ET SA FEMME QUI L'APPELLE DE LA CUISINE POUR LA VAISSELLE...
BEN LÀ, IL N'ENTEND PAS!



Trop de vent ?
Vite ! L'YL et la belle-mère !

"SHOCKING EH WHAT ?"

Voila pourquoi je préfère...
LE QRP !

HAM-MAG

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Le canular radiophonique de 1938

Par F4FUC

NUMERO 11
GRATUIT

8 DECEMBRE 2008
http://ham.france.free.fr

EDITORIAL

Pour cet édito, je voudrais d'abord rendre un hommage à un collaborateur d'HAM-MAG, qui m'a écrit depuis sa chambre d'hôpital. Il s'agit de l'ami HB9HFL, Gio, à qui je laisse la parole :

Bonjour !
J'espère que tu vas bien sans trop de stress...
Je t'écris depuis l'hôpital, où tout va bien ! L'opération de la hanche (prothèse) s'est bien passée avec relativement peu de douleurs... :-)) La "mécanique" en titane tourne comme une horloge CH hi ! Maintenant je marche dans les couloirs avec les béquilles et tout est ok! :-))

Je n'ai pas oublié la radio... Je fais quelques QSO VHF + UHF sur les relais de la région avec mon petit TRX YAESU FT-60E (5W) + antenne téléscopique (voir photo).
Vendredi prochain l'ami David (HB9TMW) va me retransmettre sur la fréquence du QSO Europééen (3.753 MHz), en espérant qu'il y aura un peu de propagation :-))
Si t'as un coin libre dans le prochain HAM-MAG, tu peux mettre mes super 73 à tous les lecteurs depuis l'hôpital de Fribourg avec les encouragements pour tous ceux qui souffrent des douleurs des hanches de ne pas hésiter à se faire opérer... la chirurgie a fait des progrès formidables ! Les hanches en Titane durent longtemps... finies les douleurs, c'est merveilleux !!! :-))
Je tiens encore à remercier toi et toute l'équipe pour tout l'excellent travail et le dévouement pour l'HAM-MAG, vous êtes formidables!
Amités et très cordiales 73. Ciao ! Giovanni, HB9HFL

Le message de Gio est un parmi tant d'autres que je reçois chaque semaine, encore merci à tous les auteurs de ces messages.
Jean-paul de F5RAZ à signalé quelques erreurs concernant l'alimentation présentée il y a quelques semaine et suggère de créer un comité de lecture pour parer à d'éventuelles fautes ultérieures. Personnellement, je trouve l'idée intéressante. Moi-même ayant peu voire pas de temps libre pour décortiquer les articles techniques (et, avouons-le, pas assez de connaissances), car la rédaction du magazine, la mise en page et les trois relectures de vérification me prennent tout mon temps. Par contre , si des volontaires se présentent, je peux leur envoyer des articles avant publication pour correction (merci à F5RAZ qui s'est déjà proposé). Ce "comité" ne doit pas remettre en cause tel article ou tel auteur qui nous font déjà un boulot énorme en participant, mais juste corriger des erreurs techniques. Concernant les autres articles (général, histoire...) je continue à vérifier et à corriger les erreurs d'orthographe, de grammaire ou de conjugaison, c'est un domaine que je maîtrise.

Bonne semaine et bonne lecture.
73's de vincent Faucheux, F5SLD

Lundi, n'oubliez pas d'aller télécharger votre cadeau sur le site
(Cliquer sur le paquet cadeau en haut, à droite)
http://ham.france.free.fr

HAM MAG

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Remerciements à **F0EXF, F1AGW, F4FUC, F4CRM, F5IRO, F5YD, F5RAZ, F6BCU, F6HQY, ON3MAJ, ON4MER, HB9HFL, YO4PX, Jérôme, Ludivine...**

Merci aux différents annonceurs qui nous accordent leur confiance et à tous les O.M. qui nous ont envoyé des messages de soutien et des dons. Pardon à ceux que j'aurais oubliés...

Vous pouvez nous contracter par Mail : ham.france@free.fr

Nous incitons nos lecteurs à ne pas copier et envoyer cette revue à leurs amis mais plutôt les inviter à s'abonner. C'est gratuit et sans publicité intempestive.
N'oubliez pas que ce magazine a été réalisé par des bénévoles au détriment de leurs heures de loisirs et de trafic.

http://ham.france.free.fr
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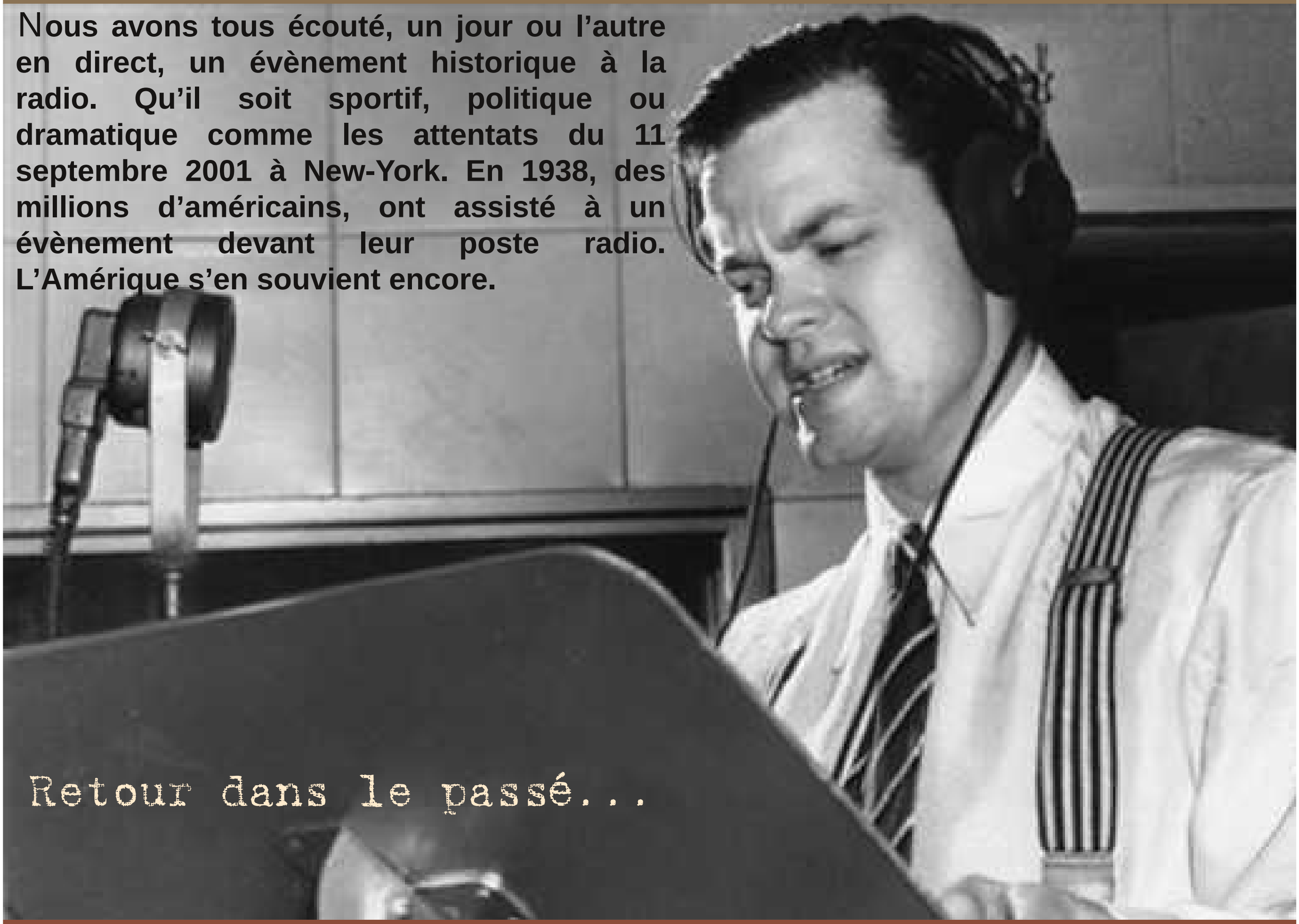
Histoire

Infos ou intox ?

Par F4FUC

Nous avons tous écouté, un jour ou l'autre en direct, un évènement historique à la radio. Qu'il soit sportif, politique ou dramatique comme les attentats du 11 septembre 2001 à New-York. En 1938, des millions d'américains, ont assisté à un évènement devant leur poste radio. L'Amérique s'en souvient encore.

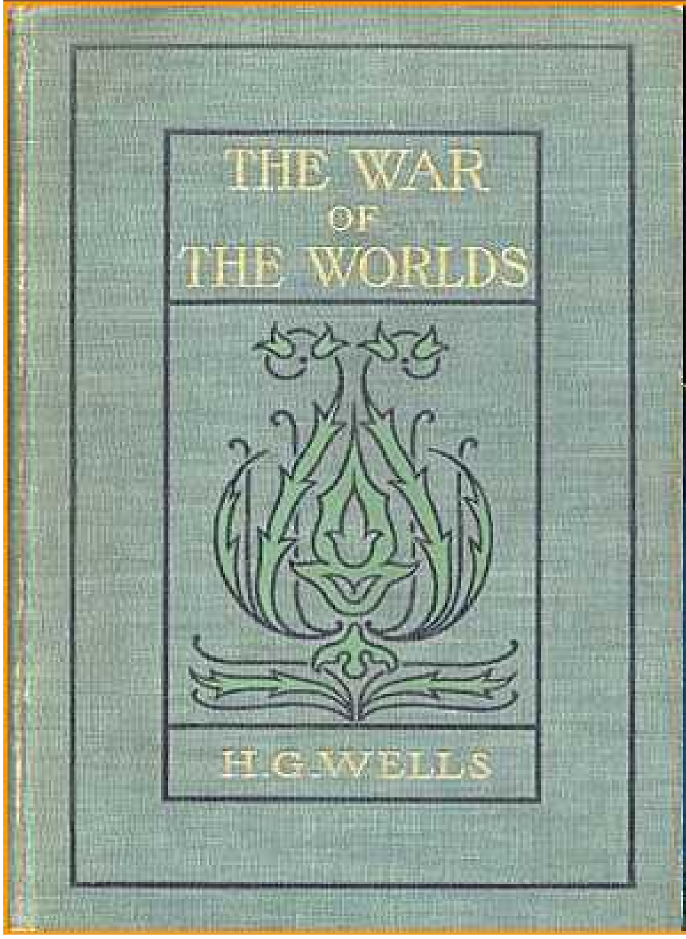


Retour dans le passé...

Nous sommes le 30 octobre 1938, à la veille d'Halloween. Ce dimanche après-midi, Orson Welles rencontre l'équipe de CBS, pour finaliser le contenu d'une émission intitulée Mercury theather on the Air. Halloween oblige, l'émission devra avoir quelque chose d'effrayant. Plutôt que d'évoquer des revenants à la tête de citrouille, Welles décide de donner vie à des entités tout aussi terrifiantes. Il va réaliser une courte adaptation radiophonique du roman de Herbert Wells, la Guerre des Mondes. Quand l'émission débute à 20 heures, les auditeurs savent à quoi s'en tenir. L'ouverture indique qu'il va s'agir d'une fiction dramatique. Les auditeurs branchés sur CBS sont peu nombreux. Une radio concurrente, NBC, diffuse au même moment une émission plus populaire. Le programme de NBC débute avec une forte audience, jusqu'au moment ou le présentateur donne l'antenne à un musicien peu connu. De nombreux auditeurs changent alors de fréquence et rattrapent en cours de route l'émission de CBS. En peu de temps, l'audience de la radio double. Lorsqu'ils arrivent sur CBS, les retardataires tombent sur un programme musical entrecoupé de bulletins d'informations faisant état d'un phénomène inquiétant. Le concert radiophonique retransmis comme prévu est bientôt interrompu pour laisser place à un bulletin d'information émis par l' Intercontinental Radio News. A 19h40, le professeur Farrell de l'observatoire de Chicago aurait aperçu plusieurs explosions à la surface de Mars, une observation aussitôt confirmée par le professeur Pierson de l'observatoire de Princeton.

Jugeant l'événement important, CBS a estimé nécessaire d'interviewer ce professeur par l'intermédiaire d'un journaliste, Carl Phillips. Sur les ondes, l'astronome se veut rassurant. Incapable de fournir une explication pour l'explosion ayant eu lieu à la surface de Mars, il estime que Mars étant inhabitée ne présente pas de dangers.

Au beau milieu de l'interview, Pierson reçoit un télégramme annonçant qu'un tremblement de terre, vraisemblablement dû à l'impact d'un météore, vient d'avoir lieu à proximité de Princeton dans le New Jersey. Stupéfaits, les auditeurs apprennent alors par le biais du journaliste envoyé sur place, que la violente déflagration était due non pas à la chute d'une météorite comme on l'avait supposé, mais à l'atterrissage d'un étrange vaisseau de métal. Tandis que les badauds se pressent autour de l'engin, ce dernier, après avoir laissé entendre un étrange bourdonnement, se dévisse soudain par le haut. Des tentacules menaçantes se hissent bientôt à travers l'ouverture. Peu après, dans l'incrédulité générale, le martien mitraille la foule avec un rayon ardent, transformant son site d'atterrissage en brasier. Aucun doute n'est plus possible quant aux intentions de ces visiteurs venus de l'espace, qui atterrissent maintenant les uns après les autres. Après avoir semé la terreur à Grovers Hills en détruisant tout sur leur passage, des tripodes martiens, sortes de tanks montés sur trois pattes et mettent le cap sur New York. Orson Welles termine son émission en souhaitant un joyeux halloween à ses auditeurs, sans se douter un instant de ce qu'il a déclenché.



H.G.WELLS
THE WAR OF THE WORLDS
With the Time Machine and Selected Short Stories

Des milliers d’auditeurs paniqués abandonnent leur maison et se lancent sur les routes pour tenter de fuir les martiens. Quand Welles annoncent que ceux-ci commencent à succomber les uns après les autres d’un mal terrestre contre lequel ils n’ont développé aucune résistance, il n’y a plus grand monde pour l’écouter. Sur les 6 millions d’auditeurs que comptait l’émission, 1 million croira à une invasion martienne. Devant l’ampleur de la psychose, des gens armés ont même vidé leur fusil sur des châteaux d’eau, croyant qu’il s’agissait de tripodes géants. Durant toute la nuit, CBS diffusera des démentis. Le lendemain matin, au cours d’une conférence de presse, Welles insistera sur le fait qu’il n’avait jamais eu l’intention de créer une telle panique. Pourtant, des rappels indiquant que cette émission radiophonique était une fiction avaient été diffusés avant, pendant et après l’émission.

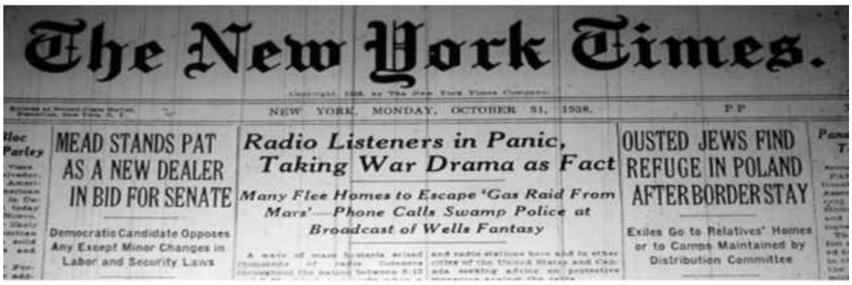
The WAR of the WORLDS
By H.G.Wells
Author of "Under the Knife," "The Time Machine," etc.

S’il parait aujourd’hui difficile de croire qu’une simple émission radio puisse générer pareil affolement, il faut replacer les choses dans leur contexte. En 1938, la planète rouge était un monde entrelacé de canaux géants vraisemblablement creusés par des intelligences supérieures. Welles a donc bâti son émission en s’appuyant sur les croyances et les peurs de l’époque. Son génie, et la véracité dont étaient recouverts les bulletins d’information fictifs ont fait le reste ...Cette émission radiophonique du 30 octobre 1938 est restée dans la mémoire collective des américains.

Aujourd’hui et grâce aux missions spatiales, nos connaissances sur la planète rouge ont fait un bond de géant, et le public, serait beaucoup plus difficile à convaincre. De nos jours, il semble impossible qu’un canular puisse déclencher une hystérie collective comparable à celle de 1938. D’abord parce que la radio, comme moyen d’information est concurrencé par la télévision et Internet. Un flash diffusé par ce moyen serait aussitôt démenti par les autres médias.

68 ans après l’émission d’Orson Welles diffusée sur CBS, la RTBF (télévision francophone belge) annonçait le 17/12/2006 la proclamation de l’indépendance de la Flandre. Beaucoup de belges se sont laissés piéger par ce qui n’était qu’une fiction.

Cordiales 73, F4FUC


The New York Times.

NEW YORK, MONDAY, OCTOBER 31, 1938.

MEAD STANDS PAT AS A NEW DEALER IN BID FOR SENATE

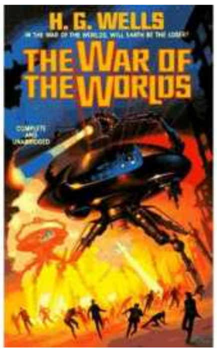
Democratic Candidate Opposes Any Except Minor Changes in Labor and Security Laws

Radio Listeners in Panic, Taking War Drama as Fact

Many Flee Homes to Escape 'Gas Raid From Mars'—Phone Calls Swamp Police at Broadcast of Wells Fantasy

OUSTED JEWS FIND REFUGE IN POLAND AFTER BORDER STAY

Exiles Go to Relatives' Homes or to Camps Maintained by Distribution Committee



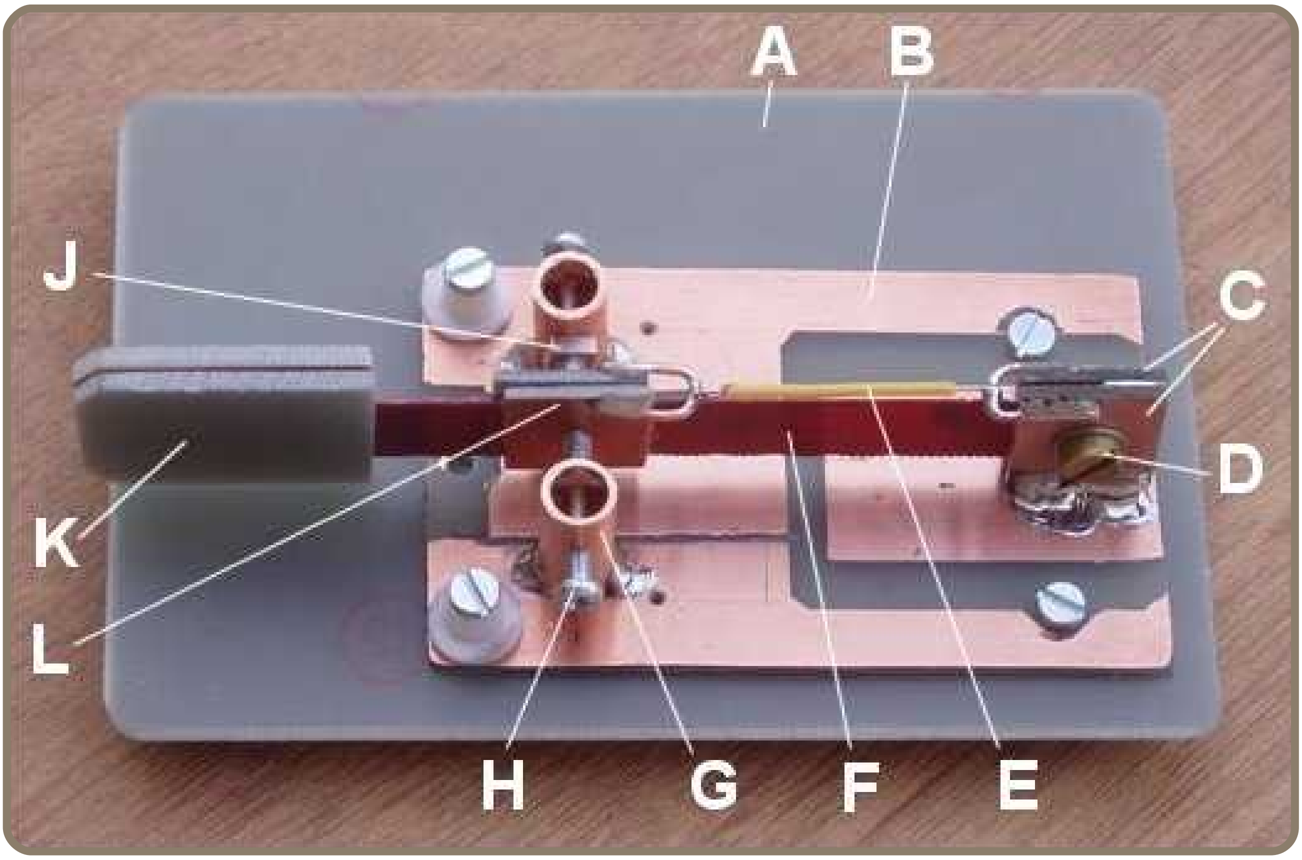
Une clé double contact facile à faire
Par F6BPO

Quelques heures de travail, un minimum d'outillage, des chutes de matériaux... et voici une clé double-contact tout à fait performante, super-douce et facile à régler.

Réalisation

La platine B proprement dite (époxy cuivré ép. 2 mm) fait 50 x 80 mm. Elle est ensuite fixée sur une plaque A en époxy épaisseur 3 mm de dimensions 120 x 80 mm (face cuivre en dessous). L'ensemble n'est pas fixé sur une embase lourde, c'est la raison pour laquelle j'ai décalé la petite platine sur la droite, de façon à pouvoir poser mon index gauche sur la plaque de base pour que l'ensemble ne se promène pas !
En ajoutant 4 pattes en caoutchouc collées sous la plaque de base, les contacts étant règlés à 0.06 de débattement, même sans la maintenir de la main gauche elle ne bouge pratiquement pas.
La lame de scie F, palettes K comprises, fait 115 mm de longueur totale. Elle est fixée sur un pied constitué de 2 carrés d'époxy C de format 15x20 mm (et une vis D de 4 mm) soudés sur la petite platine B.
A la hauteur des contacts électriques, j'ai collé à la cyanolite 2 petits carrés L d'époxy cuivré (je ne fais pas trop confiance à la conductibilité électrique de la lame de scie) et j'ai mis un petit fil (jaune) E qui va de ces 2 petits carrés jusqu'au "pied" de la lame.

Pour les contacts : 2 tubes de cuivre G, diam. 8 mm hauteur 20 mm taraudés chacun d'un trou de 3 mm, à 13 mm. du pied des tubes - 2 vis H de 3 mm longueur 20 mm avec un contre-écrou J coté lame. **Bonne réalisation ! F6BPO**



L'O.M. de la semainE
ONL7309 - Pierre

Retraité de 65 ans, je vis en Belgique, dans la province de Namur. Marié en 1963, je suis père de deux enfants et papy de deux autres.
J’ai eu la chance de faire carrière dans le domaine des télécommunications, au sein de la SNCB.

En 1952, mes parents s’installèrent à Kassel, en Allemagne, avec les forces d’occupation belges.
C’est là que m’a été inoculé ce sacré virus de la radio.
Le classique poste à galène pour débuter, suivi du «Kosmos», issu d’une boîte de construction pour enfants.

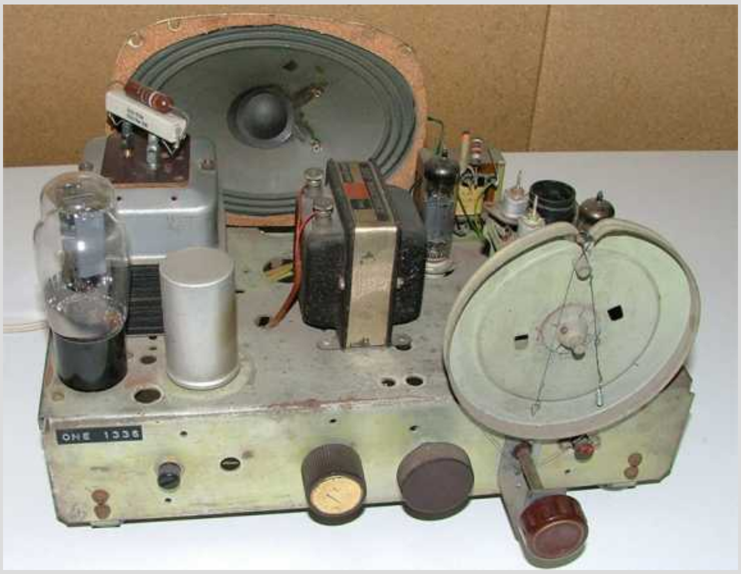
Hélas, très peu de documentation à ma portée, ma seule ressource était le magazine « Radio Plans ».

L’enseignement primaire terminé, ce fut pour moi le retour en Belgique, en internat dans un établissement scolaire de Liège. Je supportais très mal cet éloignement, c’est là que mon fidèle poste à galène devint le compagnon clandestin nocturne, le sommier métallique du lit faisait office d’antenne.

Le retour en Belgique en 1955 me permit de rentrer au foyer.

Mes « expériences » brouillaient, à mon insu, le trafic radio de la gendarmerie nationale. La sanction suprême du paternel écrabouilla au marteau mes richesses si âprement acquises. Il faut dire que mon père dirigeait alors la brigade spéciale de recherches à la gendarmerie de l’entité !

Vint ensuite l’époque du bricolage plus sérieux, dans un défilé de kits et de constructions «maison» de récepteurs, dont voici un rescapé :



Uniquement de la récupération !

La vie professionnelle offrit ensuite l'apport financier indispensable à l'acquisition des appareils plus confortables, Grundig Satellit 2000, National Panasonic DR48, une série de Kenwood R600, R820, R1000, R2000, un Yaesu FRG9600, et quelques autres dont j'ai oublié les références exactes.
Ma nette préférence va vers le R820, le R600 est très pratique en couverture générale.

Les années 80 gratifièrent la station d'une commodité supplémentaire avec la venue des micro-ordinateurs.
Quelques Sinclair ZX 81 et Spectum bidouillés furent dédiés au décodage FAX, RTTY, CW.

CQ CQ
DJ4SR
EUROPEAN FAX-CONTEST

Ensuite un Amstrad CPC6128.
Enfin le premier PC, un SX25, trouva sa place dans le shack, une kyrielle d'autres suivirent.

Longtemps « cavalier seul » je finis par rejoindre les associations belges de radioamateurs, l'UBRC, l'UBA et par ma profession la FIRAC. Les « indicatifs » ONE1336 et ONL7309 m'ont alors été attribués.

56 années de hobby consacré à l'écoute et décodage des transmissions radio tous modes, et la passion ne faiblit pas.
Au fil du temps, l'espace disponible réservé aux aériens se réduit considérablement, ils ne sont pas tous indispensables, mais j'adore construire et essayer !

La retraite favorisa la réalisation de projets laissés longtemps au placard, résumés par la création de mon site Internet : www.roue-libre.be
La photographie, vidéo, bricolage sont également des violons d'ingres.

73's de Pierre, ONL7309

nos prix sont concurrentiels !

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et un TX très robuste pour du "tout terrain"

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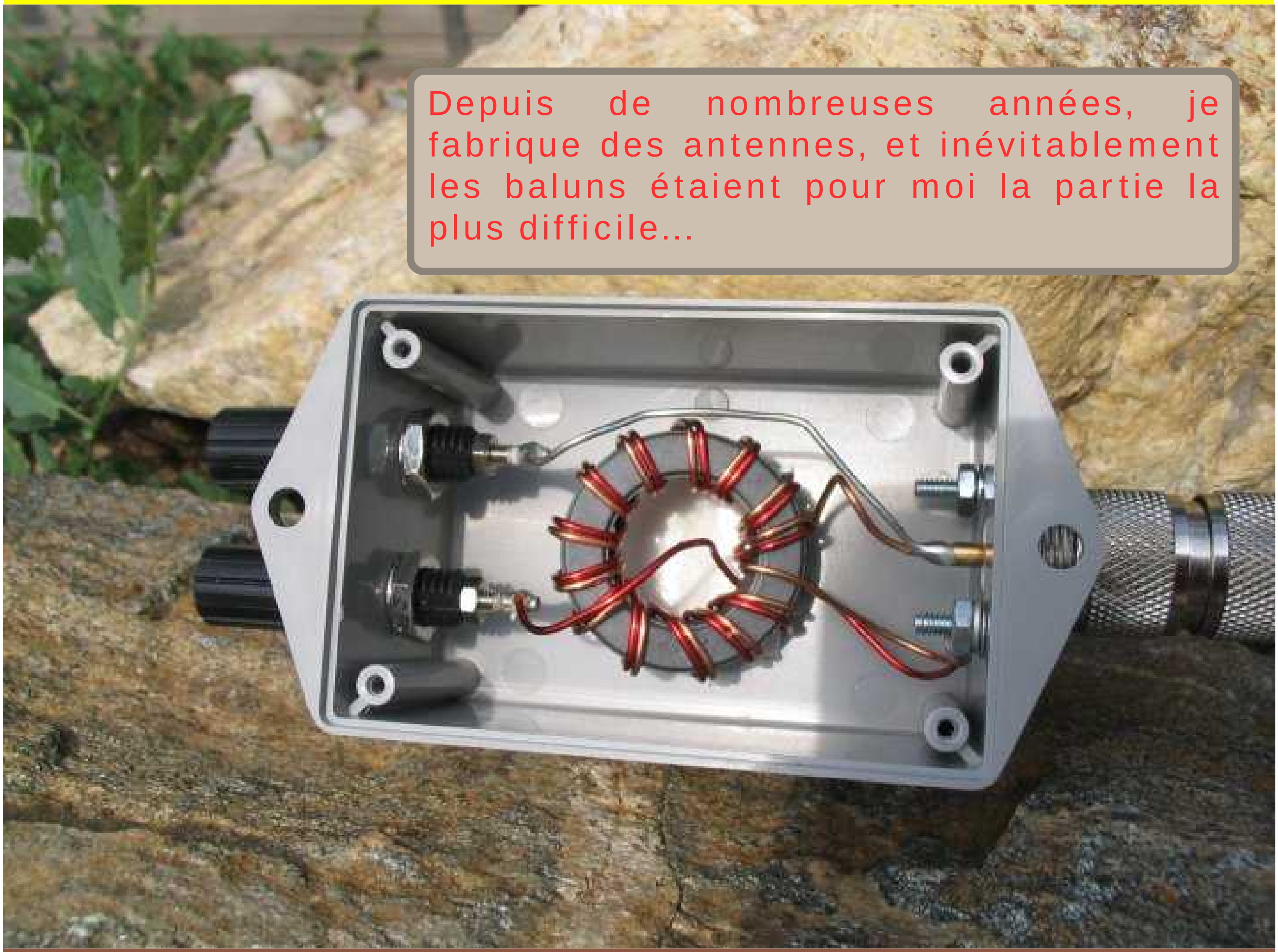
Expérimentation autour des baluns

Par F4CRM

Depuis de nombreuses années, je fabrique des antennes, et inévitablement les baluns étaient pour moi la partie la plus difficile...

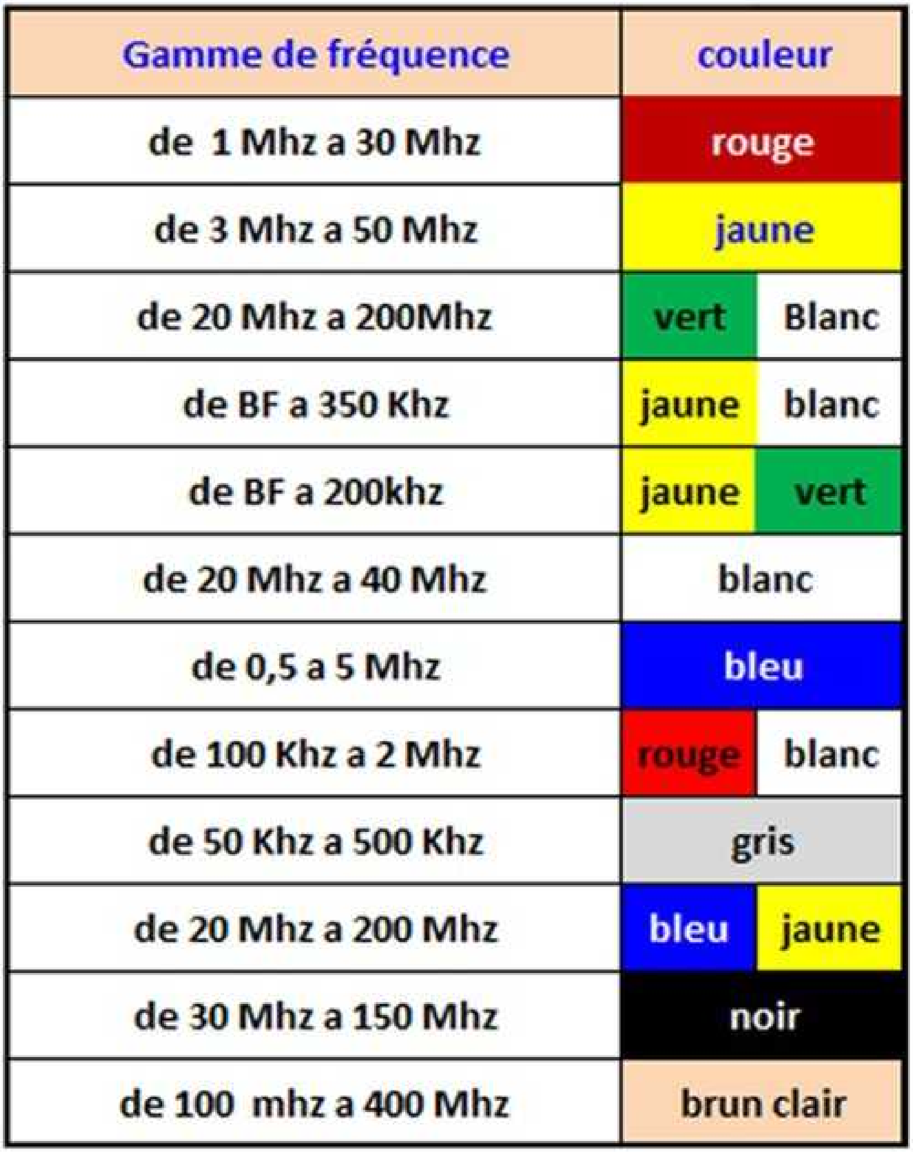


Bien des sujets ont été publiés, mais les auteurs oublient que dans bien des cas un radioamateur n'est pas forcément un technicien en électronique. Moi-même électrotechnicien j'ai mis pas mal de temps et fait beaucoup d'expériences pour comprendre. Dans le cadre de mon activité professionnelle j'ai appris beaucoup de choses et posé beaucoup de questions lors de stages en bobinage industriel. Ce dossier a pour but de simplifier la théorie des baluns, pour qu'ils restent accessibles à tous. Beaucoup de choses se racontent sur le sujet et tout n'est pas forcément vrai. C'est quand même compliqué de comprendre ce qui se passe dans un balun, à moins d'avoir fait des études supérieures en physique ou électromagnétique.
La première chose à savoir c'est que les baluns sont des transformateurs.

Le tore de ferrite est très important et il ne faut pas le négliger. Sans trop rentrer dans des détails techniques que je ne maitrise pas suffisamment pour les exposer, il faut aussi savoir que la peinture utilisée sur les tores à une signification autre que décorative, ainsi que leurs tailles, diamètre, forme, épaisseur, etc.
Malheureusement les gammes de fréquences par rapport aux couleurs ne sont pas normalisées et reconnus par tous les fabricants. Certains commencent à les respecter depuis quelques années dont un code de couleur, mais il peut quand même y avoir des variantes encore aujourd'hui.

Les valeurs normalisées en fonction des couleurs :

(Pour les couleurs qui ne sont pas présentes sur ce tableau se reporter au constructeur)



Gamme de fréquence	couleur	
de 1 Mhz a 30 Mhz	rouge	
de 3 Mhz a 50 Mhz	jaune	
de 20 Mhz a 200Mhz	vert	Blanc
de BF a 350 Khz	jaune	blanc
de BF a 200khz	jaune	vert
de 20 Mhz a 40 Mhz	blanc	
de 0,5 a 5 Mhz	bleu	
de 100 Khz a 2 Mhz	rouge	blanc
de 50 Khz a 500 Khz	gris	
de 20 Mhz a 200 Mhz	bleu	jaune
de 30 Mhz a 150 Mhz	noir	
de 100 mhz a 400 Mhz	brun clair	

Donc si vous avez bien regardé le tableau, ce qui va nous intéresser le plus c'est le premier de couleur rouge communément appelé T-200. L'avantage de ce type de tore c'est que par son diamètre il est possible de faire un balun jusqu'à 1KW et peut être plus. Mais je n'ai les moyens techniques d'y parvenir.

Les dimensions du T-200 :
Diamètre extérieur => 50.80 mm
Diamètre intérieur =>31.75 mm
Epaisseur =>13.97 mm

Même si le T-200 est un tore pratique, car il permet de fonctionner de 1 a 30 Mhz, il est toujours possible d'utiliser un tore d'une autre couleur en fonction de vos besoins et de votre budget. Ex : si vous voulez faire une antenne type W3DZZ (80 et 40m) un tore jaune convient tout à fait.

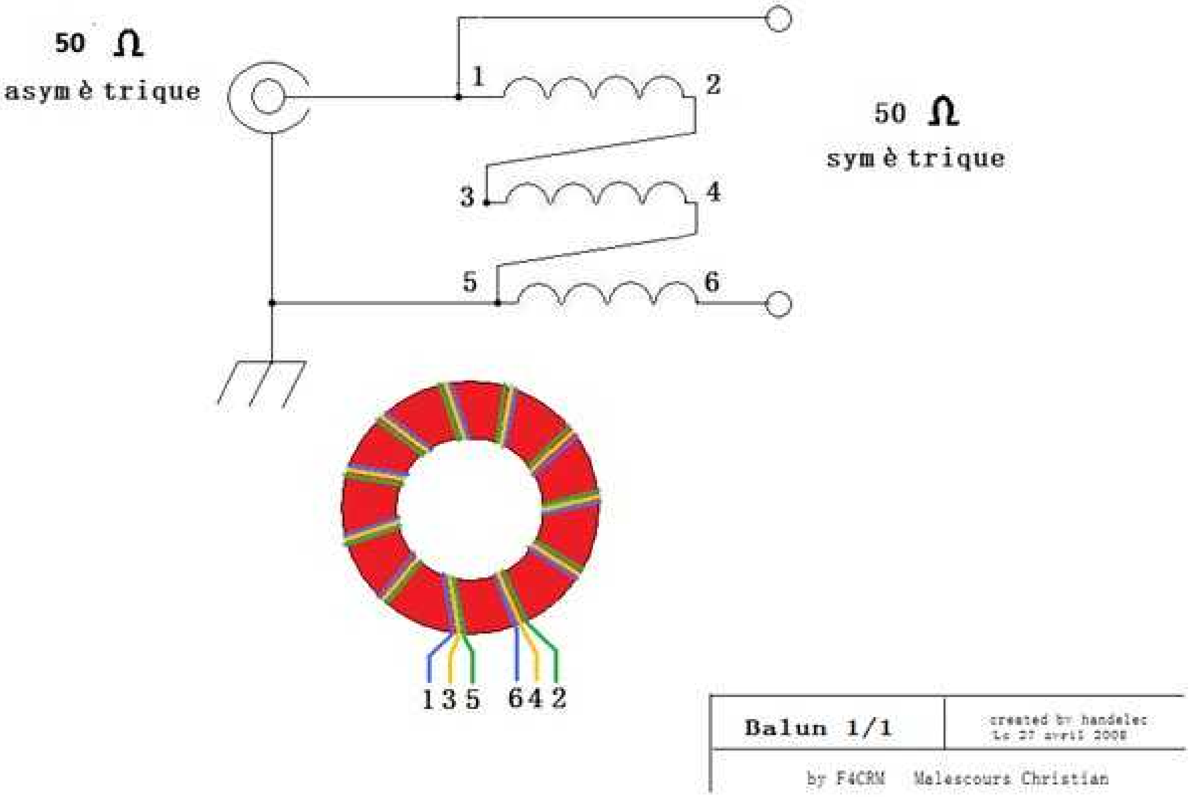
Voilà pour les tores de ferrites, maintenant passons au bobinage…

Donc, un balun est un transformateur. Comme tout transformateur digne de ce nom il comporte un enroulement au primaire et un au secondaire.

Voici les schémas de principe en fonction du rapport de transformation

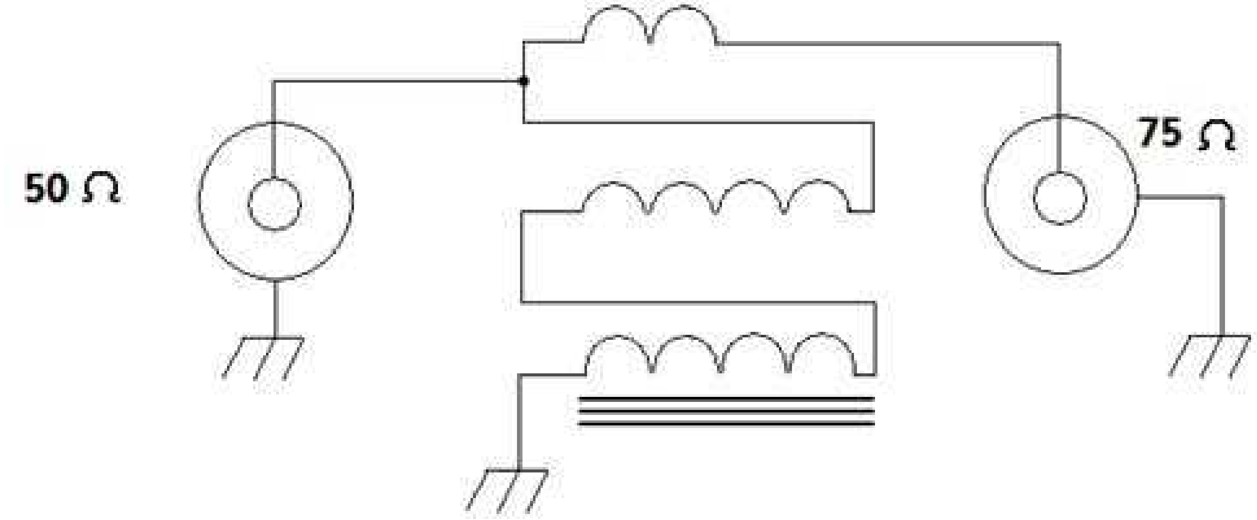
RAPPORT 1/1

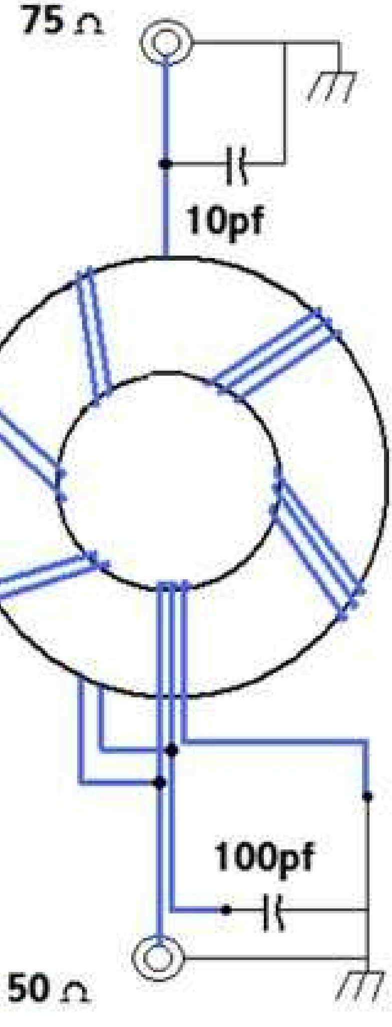
Entrée 50 ohms / sortie 50 ohms rapport de transformation 1/1 appelé symétriseur.
=> 50/1 = 50



RAPPORT 2/1

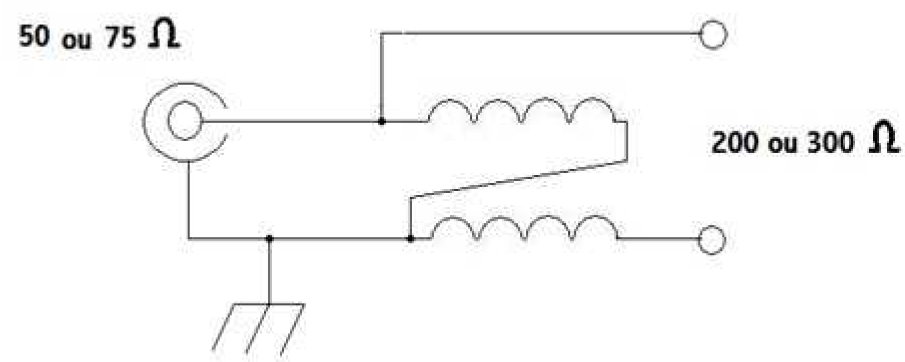
Entrée 75 ohms, sortie 50 ohms.

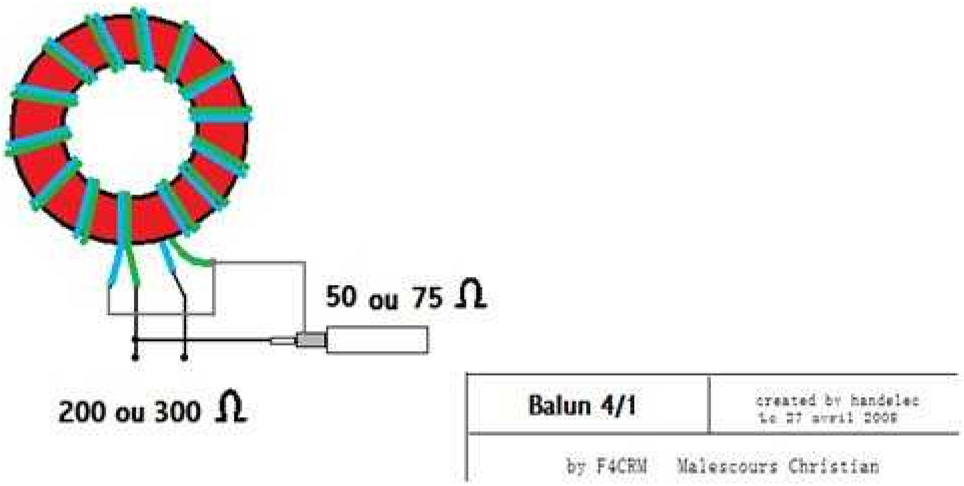




RAPPORT 4/1

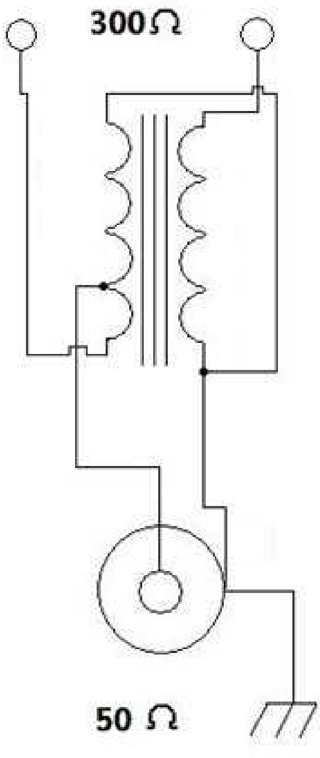
=> 200 ohms /4 = 50 ohms
Ou
=> 300 / 4 = 75 ohms





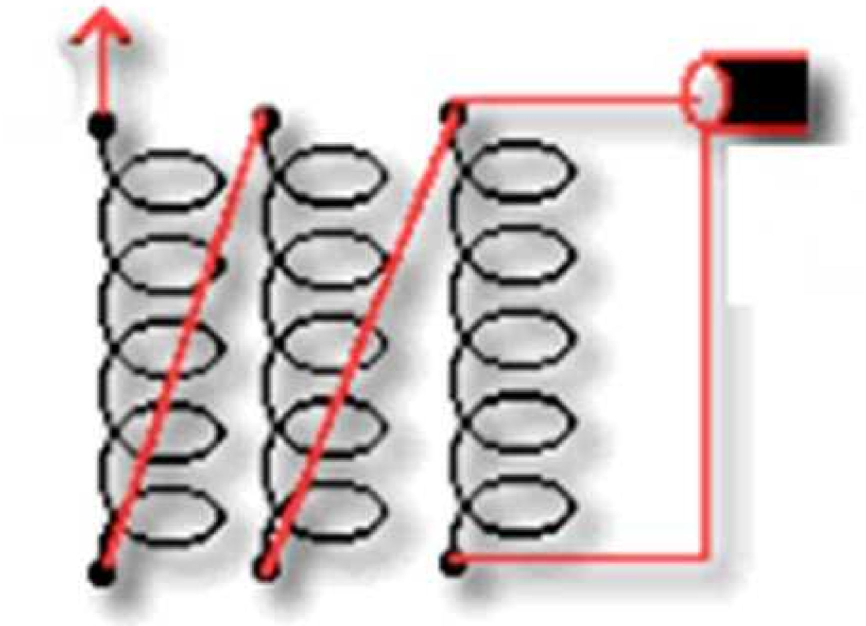
RAPPORT 6/1

Entrée 300 ohms => sortie 50 ohms.
300 / 6 = 50 ohms



RAPPORT 9/1

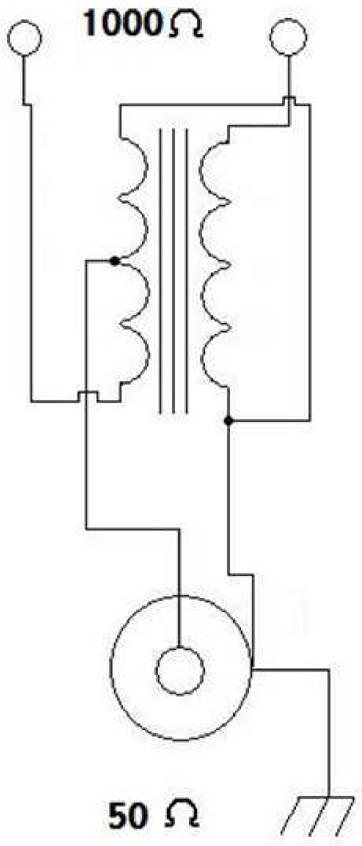
Entrée 450 ohms => sortie 50 ohms.
450 / 9 = 50 ohms
Très utilisé pour les longs fils taillés en ¼ d'onde de la fréquence la plus basse a utiliser…



Attention uniquement sur tore de ferrite

RAPPORT 10/1

Entré 500 ohms => sortie 50 ohms.

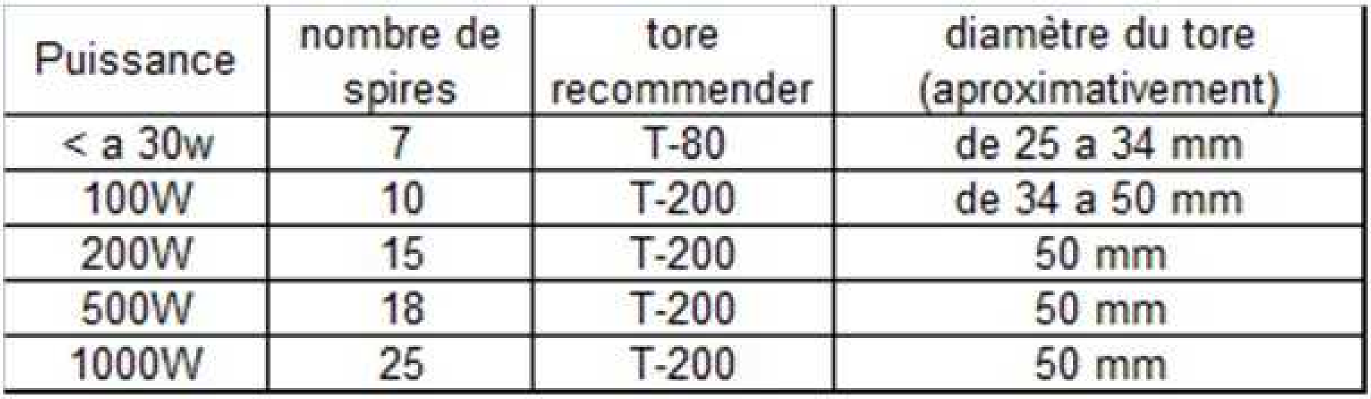


Voila pour les plus courants

Que ce soit dit :

Il y a balun pour l'émission et balun pour l'écoute. Pour la réception ou le QRP le choix du tores peut être orienté sur des tores plus petits du style 26 mm de diamètre extérieur mais pas moins. En revanche pour l'émission ne descendez pas au-dessous de 34 mm. Enfin c'est aussi en fonction de la puissance. 34mm c'est pour 100w maxi. Pour plus de puissance il faut absolument utiliser le T-200.
Il est important de ne pas négliger ce paramètre. Un tore de 26 mm utilisé avec une puissance de 200w éclate en moins de 20 secondes avec toutes les conséquences que cela implique. Vous voilà averti.
Ensuite comme tout bobinage, le diamètre du fil à utiliser joue un rôle important. Un fil trop fin provoquera une surchauffe et deviendra une véritable résistance, un fil trop gros deviendra aussi une source de pertes considérables par effet de courant de Foucault. Pour la réception, il est possible d'utiliser du fil de section 7/10 ou 8 /10. Il suffit de faire deux tours de plus mais nous y reviendrons. Pour l'émission à 100w maxi du 1² à 2.5² suffit amplement. Le type de fil doit être souple comme pour le câblage électrique ou du fil de type vernis pour le bobinage. En sachant aussi que pour une puissance comprise entre 100w et 1kw du 2.5² convient parfaitement. C'est un transfert d'énergie qui se produit dans un balun. Par contre je vous suggère d'utiliser du fil monobrin vernis pour des puissances de plus de 200w. Cela évite la surchauffe du tore. Enfin pour finir, il y a une théorie qui dit que le fil multibrins apporte moins de bruit sur les bandes basse. Je n'ai pas pu le vérifier moi-même puisque je suis en environnement pollué par une industrie et deux lignes 20 000 Volts qui rayonnent du parasite sans parler de la lampe halogène du voisin, et ce, quelque soit le balun utilisé.
Le nombre de tours de fil à faire sur le tore dépend là encore de ce que vous voulez faire. Pour une puissance d'environ 100w il faudra faire une dizaine de tours sur un tore d'environ 30mm de diamètre.

Voici un tableau qui récapitule ce que j'ai obtenu de mieux dans mes essais :

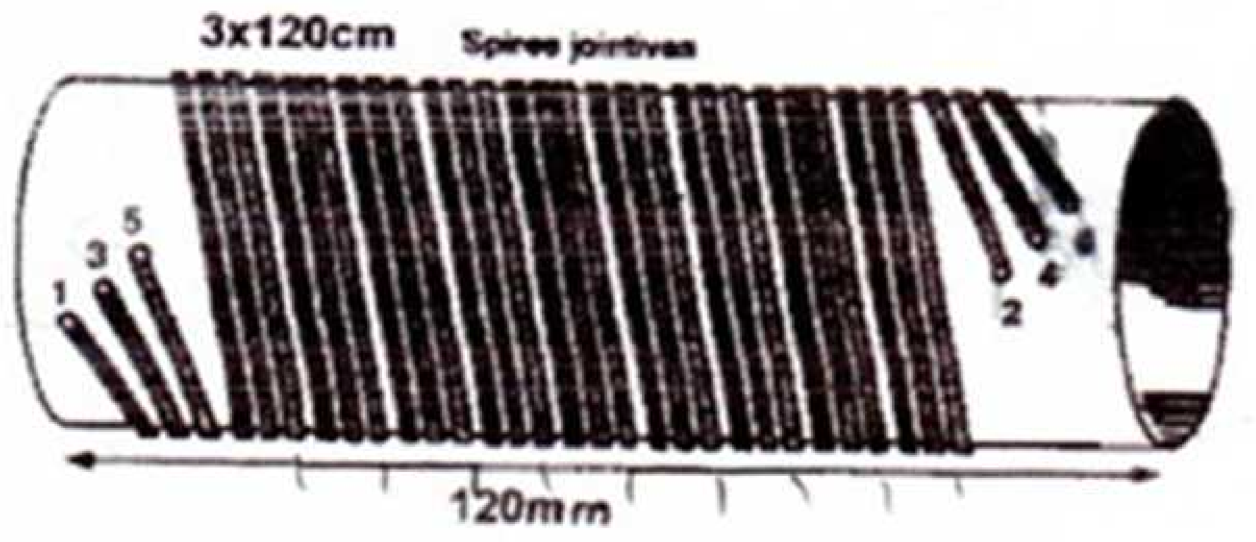


Puissance	nombre de spires	tore recommender	diamètre du tore (aproximativement)
< a 30w	7	T-80	de 25 a 34 mm
100W	10	T-200	de 34 a 50 mm
200W	15	T-200	50 mm
500W	18	T-200	50 mm
1000W	25	T-200	50 mm

Dernier point à voir, les baluns à air

En ce qui me concerne mes tests m'ont permis de voir que pour un rapport de transformation de 1/1 ou 2/1, ça fonctionne pas trop mal. Par contre le 4/1 ou 6/1 c'est déjà plus litigieux et génère une perte sur les fréquences inférieures à 10 Mhz.
La puissance ne doit pas dépasser 100w !

Quand au 9/1 à mon avis ça ne fonctionne pas du tout, l'impédance étant trop élevée. A deux reprises j'ai réalisé puis utilisé un 9/1 à air et c'était une véritable catastrophe. A éviter absolument.
Voici comment procéder : Pour les balun 1/2, 2/1, 4/1, 6/1 il faudra 10 spires de fils jointifs en 1.5mm² sur un tube PVC de 25 mm a 32 mm de diamètre.
Les fils de liaisons passent à l'intérieur du mandrin.



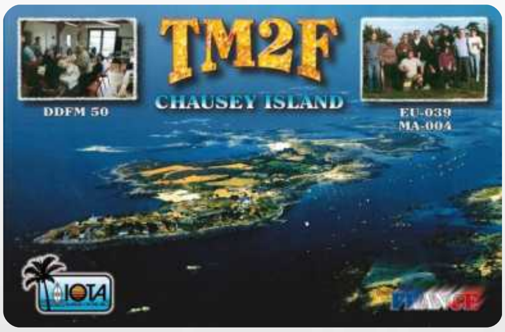
Voilà nous avons fait le tour du sujet, J'espère que cet article vous aura permis de comprendre un peut mieux ce qu'est un balun.

Bonnes réalisations et 73 !
F4CRM

INFOS DX

Par F5IRO

3V - Tunisie
GM0DHZ sera 3V8SS jusqu’au 20/12



5J – San Andres
5J0M San Andres NA 033 du 19/06 au 05/07/09

5R8 - Madagascar
Sainte Marie (AF-090),   F6ICX est 5R8IC jusqu’au 14/12

CO – Cuba
CO7PH Camaguey archipelapo NA 086 jusqu’au 21/12

CT – Portugal
CT7FFE du 26 au 27/12 indicatif spécial pour les réserves et parcs portugais
CT7FFT du 28 au 29/12 indicatif spécial pour les réserves et parcs portugais
CT7FFM du 30/12 au 02/01/09 indicatif spécial pour les réserves et parcs portugais
CT1/ON4LO/P phares portugais jusqu’au 20/01/09

FK – Nlle calédonie
FK/F5AHO ile des Pins OC 032 jusqu’au 12/12

FT - Antarticque
Jusqu’au 15/12 - F4EGX est FT5YI base «Dumont d'Urville »
et FT5WO à Crozet jusqu’au 30/11/2009

H4 – Salomons
DL2GAC sera H44MS du 10/01/09 au 28/04/09 il espère aussi être QRV depuis Temotu (H40MS) les deux premières semaines de Mars

JD – Japon
JD1BMH et JD1BLY seront en AS 031 Chichjima du 28/12 au 02/01/09

KC4 – Antarctique
W6KDX est au pôle sud sur la base US Amundsen Scott jusqu’au 05/01/09, il espère utiliser l’indicatif KC4AAA sur +/- 14.243, QSL via K1IED

KP5 – Porto Rico - Déséchéo
Expédition prévue à Desecheo (NA 095) du 12 au 26/02/09. A suivre...

M – Angleterre
M0NDX/P St Kilda EU 059 du 24/07 au 27/07/09

OH – Finlande
Santa Claus Land OH9SCL en décembre depuis le cercle artique du 160 au 10m tous modes QSL via OH9UV

OP0 - Belgique, antarticque

Jusqu'au 18 /12 – ON5XX est OP0OL – QSL via home call
ON3PC sera OP0LE depuis la station antarctique belge « Princess Elizabeth » de mi-décembre à mi-février 09

P4 – Aruba

W2CG sera P40CG du 03/01 au 17/01/09 tôt le matin et tard le soir

TA – Turquie

TA0U et d'autres opérateurs seront TC12AKUT jusqu'au 16/12, QSL via TA0U

TM – France

TM8T jusqu'au 12/12 pour le Téléthon

TR – Gabon

TR50R jusqu'au 31/12
TR8CR du 01/01/09 au 26/01

TS – Tunisie

TS7C Kerkennah AF 073 du 08/01 au 19/01/09

TU – Côte d'ivoire

F4EGS sera TU8/F4EGS à compter du 25/12 à fin février 2009, QSL via F4EGS

V31 – Belize

V31UR et V31WL Caye Caulker NA 073 du 22/07 au 29/07/09

VP8 – Iles Fakland

VP8LX Falkland SA 002 du 17 /01 au 31/01/09

YS – El salvador

HB9KNA sera YS1/HB9KNA jusqu'au 28/12, QSL via home call

Z2 – Zimbabwe

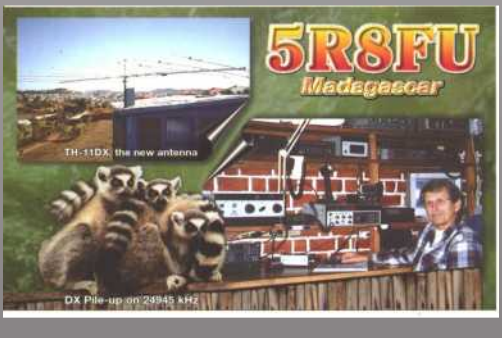
7Z1HB sera Z21LS jusqu'au 09/12, QSL via DE1HZB par le bureau ou via 7Z1HB en direct

ZD8 – Ascension

ZD8UW Ascension AF003 du 31/12 au 09/01/09

ZV – Brésil

ZV5V et ZV5Z depuis ilha da Paz SA 027 jusqu'au 13/12



EN COURS

Jusqu’au 31décembre	VE2XB/VY0 Southampton Island (NA-007)
Jusqu’à fin décembre	ON4JM sera OD/ON4JM
Jusqu’à fin décembre	HF0POL Henryk Arctowski Station (Shetlands sud)
Jusqu’à fin décembre	T31DX OC 043
Jusqu’à fin janvier 2009	FM/F5IRO QSL via F5IRO
Jusqu’au 03 février 2009	EA8/ON5JV et EA8/ON6AK (AF-004)
Jusqu’au 06 février 2009	9M2MRS Penang Island (AS-015)
Jusqu’à fin février 2009	OD5/F5TLN
Jusqu’au 07 mars 2009	VK2ABP est VK0BP depuis la base Davis
Jusqu’au 31 mars 2009	J5UAP
Jusqu’au 31 mars 2009	6W2SC
Jusqu’à fin avril 2009	VK2LNX et VK2FSNJ Maatsuyker Island (OC-233)
Jusqu’à fin avril 2009	OD5/IV3YIM
Jusqu’au 31 août 2009	VR2/F4BKV (AS-006)

Contests de la semaine 48

NORTH AMERICAN METEOR SCATTER
11/12 00H00Z au 15/12 07H00Z (DIGI)

ARRL 10 M CONTEST
13/12 00H00Z au 14/12 24H00Z (SSB CW)

28 MHZ SWL CONTEST
13/12 00H00Z au 14/12 24H00Z (SSB CW)

MDXA PSK DEATH MATCH
13/12 00H00Z au 14/12 24H00Z (DIGI)

RUSSIAN 160 M CONTEST
13/12 00H00Z au 13/12 02H00Z (SSB CW)

CROTIAN CW CONTEST
13/12 14H00Z au 14/12 14H00Z (CW)

GREAT COLORADO SNOWSHOE RUN
14/12 21H00Z au 14/12 22H59Z (CW)

NATIONAL TVA 438 MHZ
13/12 au 14/12

CONCOURS UFT CW
13/12 au 14/12

Journée nationale de la sécurité intérieure

Par F0EXF

Comme dans la plupart des villes françaises, Roanne (42) recevait cette journée, la majorité des métiers liés à la sécurité.

L'ADRASEC 42 était très largement représentée par 6 de ses membres : F4CVM, F4DYE, F1NTE, F0FEG, F0EED et F0EXF.

Samedi 18 octobre 2008, il est 7h15 et la température extérieure affiche 0° (zéro). Pas de panique, la météo est annoncée clémente pour cette journée. Jean-Pierre arrive le premier pour repérer les lieux.

Peu de temps après, Pascal (DYE) et Jean-Louis arrivent avec la remorque prêtée par le radio-club de Roanne (F6KKN, merci à eux), suivi de près par nos trois autres opérateurs.

Nous sommes reçus par un officier de la police nationale qui nous indique notre emplacement.

La remorque est mise en place et les antennes sont installées (une VHF et une HF).

Nous installons le matériel d'exposition : une station en écoute APRS, une à l'écoute de la tour de contrôle de Roanne, une autre pour effectuer des contacts en HF, un présentoir avec des photos de notre dernier SATER et des antennes 121.5 Mhz.

Non loin de là, s'installent la gendarmerie nationale, la police nationale, la police municipale, le SDIS, la protection civile, la croix rouge française. Alors qu'à l'extérieur, la gendarmerie installe une voiture montée sur un système imitant les tonneaux provoqués par un accident, des mini-motos pour le plaisir des plus jeunes.

9h30, ouverture au public. Est-ce le froid, ou l'horaire, toujours est-il que le public se fait attendre. Des élèves de Jean-Pierre sont les premiers présents sur le site et découvrent les divers métiers qui leur sont proposés. Petit à petit, timidement mais sûrement les visiteurs arrivent.

11h00, première démonstration, celle de la police et notamment des maîtres-chiens de la section des stups (recherche de produits illicites dissimulés sur le site). Très belle présentation et une complémentarité parfaite entre le chien et son maître. La gendarmerie les succède et montre d'autres aspects de l'usage d'un chien de défense et d'attaque.

En début d'après midi, le public arrive un peu plus nombreux. Le ciel est bleu et surtout les températures bien plus agréables. Les démonstrations se succèdent, des scènes de combats en corps à corps, des démonstrations avec l'usage d'un défibrillateur par de la CROIX ROUGE, etc.

L'ADRASEC est sollicitée par des visiteurs très surpris de nous voir parmi les autres organisations officielles. Même certains officiers nous disent être surpris par nos activités et par notre avancée technologique. Nous avons également le plaisir d'avoir la visite des responsables de la préfecture et du maire de Roanne. Sans oublier des amis radioamateurs., comme Bernard F1FFS, Alain F1HBV et Jean F4EFL qui lui est adhérant de l'ADRASEC 03.

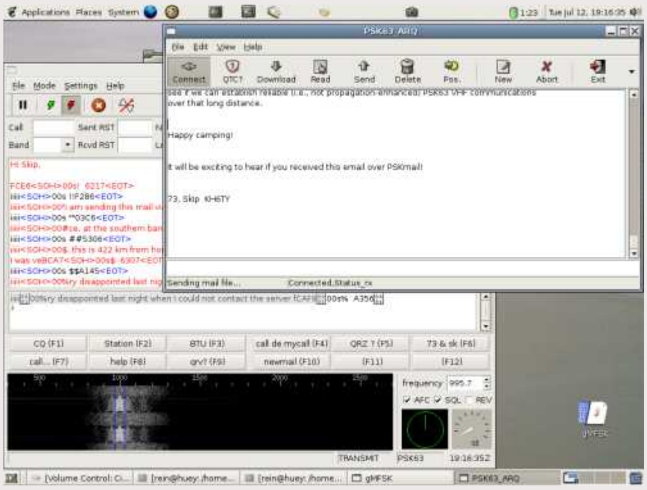
16h00, fin de cette journée et démontage de l'expo.

Nous ne regrettons nullement notre présence, même si nous sommes tous déçus par le peu de monde venu sur cette manifestation.

Merci aux organisateurs de nous avoir invités et espérons que ce genre de manifestation se reproduira.

73 de F0EXF Jean-Pierre

PSKMAIL C'EST QUOI ?
PAR F5YD



over that long distance.

Happy camping!

It will be exciting to hear if you received this email over PSKmail!

73, Skip KH6TY

Sending mail file... Connected,Status_rx

PSKmail est un système qui par une infrastructure indépendante permet l'accès à des services d'internet tels que le courriel et le WEB. Un voilier sur un océan peut ainsi lire et envoyer du courrier électronique , obtenir des informations météo , envoyer directement des messages , actualiser la position du navire par APRS

Amis et famille peuvent rester en contact et suivre aussi la route du bateau quelques secondes après les réactualisations envoyées depuis le navire.

PSKmail peut fournir l'accés aux services d'Internet en zones rurales ou en des lieux isolés pour d'autres raisons. Peut-être voudriez accéder à Internet tout en étant au pole Nord ? Pas de problème PSKmail vous fournit cela .

Attendez , dois-je mentionner la gratuité et que le code est en "source ouverte" (Open source).

Indépendant de l'infrastructure ?

Avec PSKmail les clients accèdent aux serveurs en utilisant la HF . Une station mobile peut opérer sur batteries-solaire et se trouver dans un coin perdu (par exemple dans la jungle, en haute mer). Les serveurs bien sur doivent être connectés avec Internet pour aller chercher le courrier. Mais les serveurs peuvent être utilisés sans Internet (là ou cela n'est pas permis ou besoins spéciaux comme les systèmes d'urgence)

Les serveurs sont indépendants et ne sont pas défaillants quand le système central ne peut plus être joint .Un serveur pourrait-être arreté alors tout simplement choisissez en un autre.

Courrier électronique

Le courrier électronique est un moyen de communication essentiel. PSKmail permet aux clients en mobile d'accéder à leur courriel n'importe où n'importe quand .

Avec PSKmail vous accédez à vos serveurs POP de courrier électronique , cela signifie que votre compte de courrier habituel peut être utilisé.

Il existe également une assistance aux services populaires tel que Gmail. L' application client de pskmail comporte une boite de dialogue où des configurations de fournisseurs de mail peuvent être entrées , ces configurations peuvent être envoyées sur l'air pendant une connection à un serveur pskmail. Vous pouvez ausi mettre vos configurations dans une base de données centralisée pour que le serveur les utilise.

Naviguer sur le WEB

PSKmail permet la navigation sur le web en mode texte. Les clients peuvent accéder à leurs sites web favoris , de manière à se prémunir de la largeur de bande pskmail donne cela sous forme de texte (images supprimées).

Ceci est une facilité très utile.

Le marin peut par exemple accéder aux informations météo , aux avis de navigation etc,

De nouveaux sites peuvent être explorés et je peux aller chercher les résultats de la dernière rencontre de mon équipe de hockey.

APRS

Le système de positionnement automatique (Automatic Positioning Reporting System) a été conçu de manière tactique pour échanger en temps réel de manière fiable et rapide de l'informations locale , sur des évènement ou des réseaux .
PSKmail est en mesure d'envoyer des informations de position géograpique et d'échanger des messages APRS de station à statione. Un bon moyen d'utiliser cela en envoyant toutes les 10 minutes la position courante d'une station mobile. Amis et famille peuvent suivre le déplacement de la station à l' écran sous forme graphique (voir wikipédia pour plus d'informations)

Aide et urgence

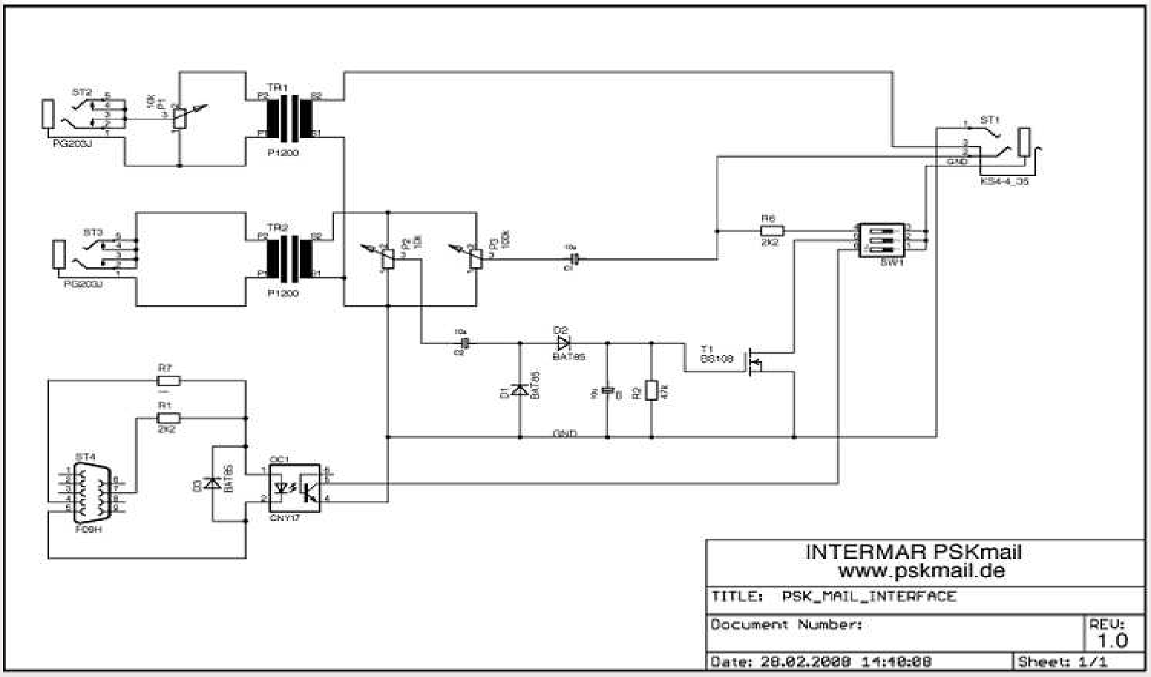
PSKmail est un outil optimum lors de situations d'urgence.
Le réseau de serveurs est légèrement maillé ceci signifie que si un serveur ou une grande partie du réseaus pourrait être hors service , alors les serveurs restants assurent leur fonction comme d'ordinaire. Naturellement un lien vulnérable est celui de votre fournisseur de service de courriel ; ce serveur viendrait il à être hors service, prendre son courrier sera difficile.
Mais vous pouvez avoir une autre compte utilisateur ? Simplement dirigez vers cette direction et en avant le serveur. Que se passerait- il si tout Internet venait a être défaillant ? Eh bien tous le serveurs ont des boites à lettres locales qui peuvent être utilisées pour emmagasiner et diffuser vos messages aux autres clients pskmail.

.

Alors comment essayer tout ça ?

Il y a un cd-live disponible en téléchargement. : Live_distro
Une distribution live distro est une distribution Linux qui s'exécute en boot. L'execution esf faite entièrement et ce depuis le périphérique de démarrage (cd) , le disque dur n'est pas affecté, (pas nécesssaire non plus) .
Un CD live est une bonne façon de tester de nouvelles choses et de commencer rapidement. Vous téléchargez le fichier ISO, le gravez et le booter depuis votre PC (simplement redémarrer une fois le cd en place dans le lecteur) .
Site internet de PSKmail à l'adresse : http://www.pskmail.wikispaces.com

73 de F5YD



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Boutique virtuelle sur www.sardif.com

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SARDIF, IMPORTATEUR SPE EN FRANCE

AMPLIFICATEUR LINEAIRE 1K-FA 1KW FULL AUTOMATIQUE A TRANSISTORS

LE PLUS COMPACT DU MONDE !

28 x 14 x 32cm (connecteurs inclus !) • Poids : environ 20kg

Alimentation et tuner automatique intégrés !

LA TECHNOLOGIE LA PLUS AVANCÉE !

- 2 processeurs sont utilisés dont un dédié à la jonction avec le transceiver (CAT) - Circuit de sortie en Pi-L

- Plus de 13000 lignes logiciel qui permettent d'obtenir des performances introuvables sur le marché !

FULL AUTOMATIQUE

- Connection facile avec les émetteurs Yaesu, Icom, Kenwood, Elecraft, TenTec, Flexradio, avec prise en charge directe des bandes, antennes, et accord
- Performances identiques avec d'autres marques d'émetteurs, voire avec des postes de construction OM
- Seule action nécessaire de l'opérateur : bouger le vernier de son émetteur !!!

LARGE COUVERTURE EN FRÉQUENCES

Couverture de 1.8 à 50MHz, WARC inclus!

PUISSANCE DE SORTIE

- 1 KW PEP de sortie SSB; 900 W PEP de sortie CW (typ.); 700 W PEP de sortie sur 50MHz (typ.)
- Pas de temps de chauffe : l'ampli est utilisable dès la mise sous tension.

BOITE D'ACCORD AUTOMATIQUE INTÉGRÉE

- Possibilité d'accorder d'un ROS de 3/1 en HF et de 2.5/1 en 50MHz
- Possibilité de commutation automatique sur 4 antennes différentes (connecteurs S0239)
- Jusqu'à 2 antennes sur la même bande
- Condition d'accord, de bandes ou d'antennes changées en 10 millisecondes!
- Possibilité de passer les conditions d'accord, de bandes ou d'antenne en position "STANDBY"

HAUT NIVEAU DE GAIN (16DB)

Lorsque l'amplificateur est en fonction, le niveau d'entrée est automatiquement réglé par une commande ALC; si l'amplificateur est en STANDBY, l'excitation repasse automatiquement à son niveau maximum

SORTIE À FAIBLE DISTORSION

- Rejection image de moins de -50dB
- Distrotion de 3eme ordre (test 2 tonalités) de 36db typ.

PROTECTION INTÉGRALE

- Protection contre les facteurs suivants : température, survoltage, surtension, SWR, puissance réfléchie, tension d'accord RF maximale, Overdrive
- Les valeurs des paramètres ci-dessus sont contrôlées en permanence
- Double contrôle des paramètres :
  - * Par des circuits Hardware
  - * Par voie logicielle

OPÉRATION FULL BREAK-IN (QSK)
NIVEAU SONORE LIMITÉ

- équipé de 7 ventilateurs à faible bruit
- Niveau sonore de 39dBa avec ventilation maximale

ALIMENTATION INTÉGRÉE

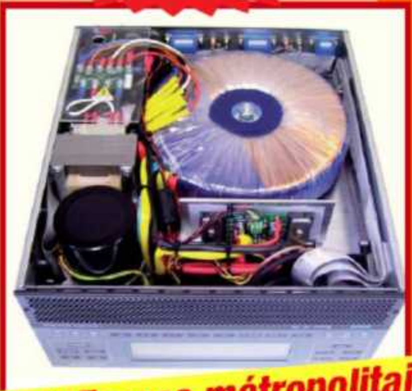
- Alimentation 230 / 215 / 200 / 115 / 110Vac
- Quelle que soit la tension d'alimentation, le niveau de puissance de sortie ne change pas

LARGE AFFICHEUR LCD RÉTROÉCLAIRÉ

De nombreuses informations figurent sur l'afficheur : Niveau de puissance de sortie en W, V pa, I pa, puissance réfléchie en W pep, Power gain, Temperature (°C, °F), SWR, réglages d'entrée, réglages CAT, bandes...

PORT RS232 POUR CONTROLE VIA PC
TRANSPORT FACILE

3290€



Franco de port France métropolitaine pour les commandes passées en octobre !

0908_HEIL

★Prix indicatif ; prix magasin et offres promotionnelles, nous consulter. Photos non contractuelles. Publicité valable pour le mois de parution. Prix exprimés en euros. Sauf erreur typographique.

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BON DE COMMANDE

NOM .... PRENOM ....
ADRESSE ....
....
CODE POSTAL |_|_|_|_|_| VILLE .... TEL ....
Veuillez me faire parvenir les articles suivants : ....
....
Chèque à la commande - Frais d'envoi : nous consulter.

SARATECH
LE SALON DE LA RADIO ET DE L'ELECTRONIQUE DE LOISIR

Samedi 21 et dimanche 22 mars 2009

Parc des Expositions

CASTRES (Tarn)

Expo vente de matériel Radio neuf et occasion – TSF - Associations

IDRE

Institut pour le Développement des Radiocommunications par l'Enseignement
Tel : 05 63 62 11 80 idre@ac-toulouse.fr

Radio-Communication RMAR/PH JEANNE D'ARC

OPERATION RADIO-COMMUNICATION RMAR/PH JEANNE D'ARC.

Le RMAR/NETMAR LE RESEAU DES MARINS RADIOS
va suivre par des contacts qso réguliers toute la campagne 2008/2009
du PH JEANNE D'ARC.
L'AMARAD ASSOCIATION DES MARINS RADIOS CIVILS ET MILITAIRES
représentée par O. MARSAN F6DGU (ancien radio du PH JEANNE D'ARC)
coordonne en collaboration avec l'Etat-Major du PH JEANNE D'ARC
l'opération RADIO-COMMUNICATION RMAR/PH JEANNE D'ARC.
Cette opération consiste en un suivi régulier par contacts radios sur les
fréquences radioamateurs du PH JEANNE D'ARC pendant toute sa campagne
2008/2009. matérialisé et finalisé par la mise en relation directe par radio HF/BLU
d'éléves d'écoles primaires sélectionnées avec le navire en mer.

BALISES OMNIDIRECTIONNELLES MDB

PAR F1AGW

1 Généralités

Les balises NDB (Non-Directional Beacons) sont des balises d'orientation utilisées par le service aéronautique.
Elles sont situées aux abords des aérodromes et aéroports et transmettent leur indicatif en CW.

Les fréquences des NDB se situent dans la bande VLF entre 200 et 500 KHz.

L'émission est continue avec selon les balises des blancs ou des porteuses de quelques secondes entre les indicatifs.
Ci-contre l'antenne de la balise OYE d'Orly émettant sur 349 KHz.
La partie rayonnante de l'antenne est le mat (la partie verticale), la "marguerite" au sommet joue le rôle de capacité terminale.
La portée (théorique) est d'environ 250 Km.

2 Comment recevoir une balise NDB en VLF

Deux solutions pour le récepteur :
- Utiliser un récepteur capable de descendre en dessous de 100KHz et ayant une bonne sensibilité a ces fréquences.
- Utiliser un convertisseur VLF / HF par exemple 300 KHz / 10MHz suivi d'un récepteur utilisé en FI variable sur 10 MHz. Dans ce cas la fréquence 300 KHz est reçue sur 10300 KHz.

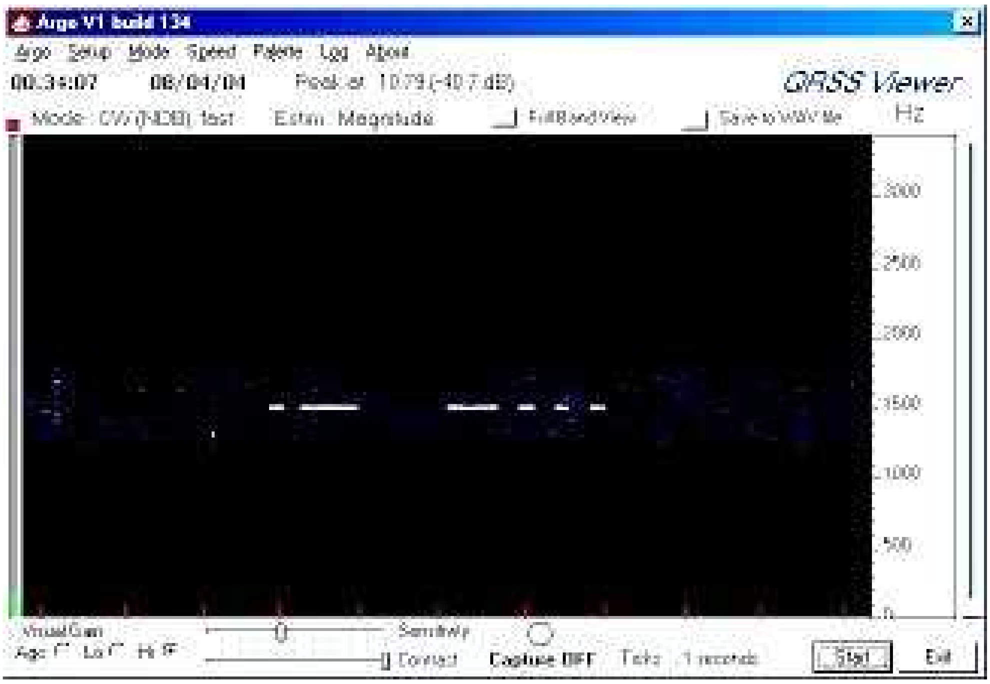
Dans les deux cas un filtre FI 500Hz sur le récepteur est recommandé
Deux solutions également pour l'antenne :
- une antenne fouet ou une antenne long fil (sensible aux champs électriques).
- Une antenne cadre accordée (sensible aux champs magnétiques).

Voir la page VLF sur les antennes cadres de F5LJT a l'adresse
http://www.ref-union.org/ed95/loop_LFetVLF/loop_LFetVLF.htm
Pour débuter un long fil permet de se faire la main en attendant la construction d'une antenne cadre

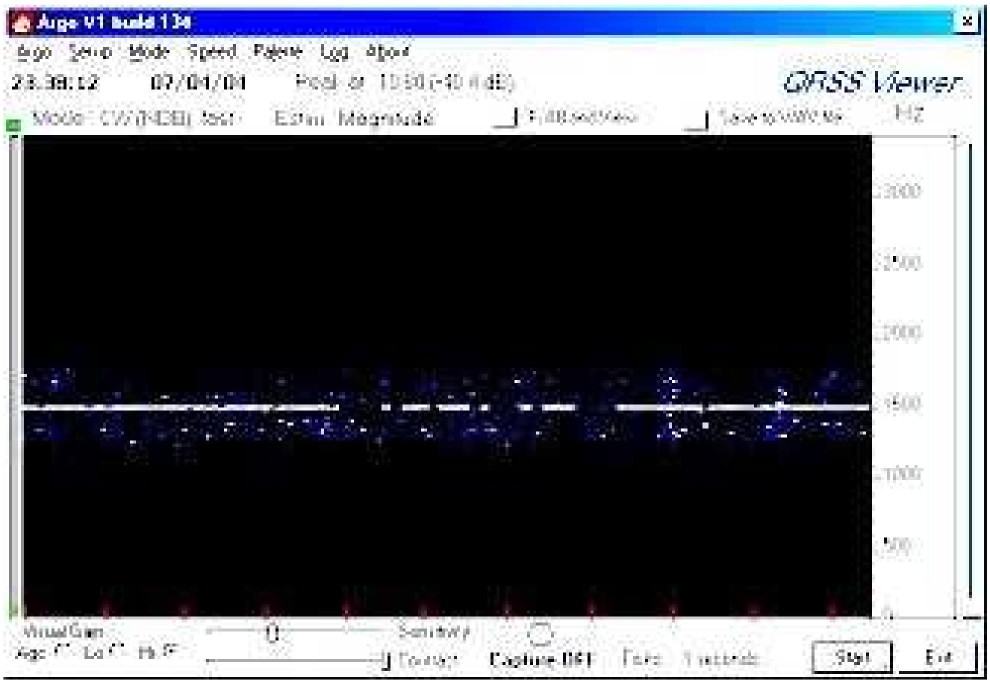
Le décodage de la CW :
Si pour des balises proches le décodage peut se faire "a l'oreille", pour des balises éloignées le signal n'est plus exploitable du fait du QRM (appareillages électriques, véhicules ou les lignes de distribution électrique). Dans ce cas, on utilise des programmes qui visualisent le spectre BF après filtrage, via la carte son du PC. C'est le cas du programme Argo (freeware) qui permet de visualiser la CW et de faire une copie écran du signal reçu. A télécharger sur http://www.qsl.net/padan/argo/index.html .
Spectran un autre programme (freeware également) sur le site
http://www.qsl.net/padan/spectran.html
Si votre récepteur ne possède pas de filtre DSP BF vous pouvez intercaler entre le PC et le récepteur, un DSP soft (sur un 2eme PC). De nombreux programmes comme ***Chromasound*** existent sur internet

3 Exemples de réception d'une balise NDB

Réception de la balise AB de Akraberg (381 KHz), Iles Faroes a 1600 Km (conditions idéales... pas de QRM)
Conditions de réception :
Antenne long fil
Récepteur AR5000 (filtre FI 3Khz)
DSP BF soft "Chromasound" sur un PC (filtre 300 Hz centré sur 1500Hz)
Argo sur un deuxième PC.


00:34:07 08/04/04 Peak at 1079 (-40.7 dB)
Mode: CW (NDB) fast Estim: Magnitude

Balise PA de Pancévo (496 KHz) en Yougoslavie 1439 Km filtre BF 500Hz


23:38:12 07/04/04
Mode: CW (NDB) fast Estim: Magnitude

Bonnes écoutes et 73 ! F1AGW, Jean-louis

INFOS DIVERSES

Une info pouvant être utile à quelques lecteurs (Radioamateurs, SWL, Cibistes..) :
Ca commence à bouger doucement en France, sur les fréquences libres PMR446, grâce au site web et aux forums suivants :
http://pmr446.free.fr/index_news.htm
http://pmr446.xooit.com/index.php
Chose intéressante à savoir, l'utilisation des modes numériques (RTTY, SSTV, Packet..) n'est pas interdite, bien que ce type d'émetteur-récepteur portatif ne soit pas prévu à l'origine pour des transmissions de données, avis donc aux expérimentateurs.
73 Vincent 14FRS128 (QRZ cibiste UHF) http://14frs128.site.voila.fr/

Vous recherchez des informations sur le trafic sur 2200m (137kHz) ou l'écoute du 600m (500kHz). Venez partager vos expérimentations sur le forum des Lfistes Francophones !
Ici l'on parle du 2200 m , 600 m et 160 m.
http://propagation.hf.free.fr/2200_160m/
A bientôt le plaisir de vous lire.
HAmicalement. F4FLQ

Voici l'adresse de mon site à découvrir
http://membres.lycos.fr/jean73savoie/
J'ai aussi un site spécial DRM très simple avec tous les téléchargement des logiciels, des liens et explication etc. http://membres.lycos.fr/drmradioamateur/
Amitiés de SWL Jean

Mon activité est axée principalement sur les VHF, UHF et prochainement SHF, voici mon site :
www.f4faq.fr 73's de Xavier !

Autres sites à visiter :
http://www.dxwiz.com
http://irdx.fr/
http://scanecoute.free.fr/index.php
http://pagesperso-orange.fr/f1dvp

ERRATUM concernant l'alim 20A proposée il y a 15 jours :

- L'attaque incorrecte des transistors de puissance NPN par l'émetteur; ceci devant se faire dans ce cas par les collecteurs,
- Le montage de la résistance de 0.1 Ohm doit se faire en série dans chaque émetteur des ballasts vers la masse pour équilibrer les courants dans chacun des transistors.
- Il faut découpler en alternatif très près des pattes entrée/sortie du L200 par des capas tantales 1 à 2 µF afin d'éviter que de la HF vienne perturber le travail du régulateur.
- Le captage de la tension de sortie pour la patte 'sense ' du L200 en vue de régulation doit se faire en aval de l'ampèremètre (à la borne de sortie même) pour prendre en compte la chute de tension minime du cadre il est vrai.
- Ne pas oublier la forte section indispensable des cables +- destinés à véhiculer les 20 Ampères.
- La capa de 4700µF semble redondante ; il y a ce qu'il faut de l'autre côté !

Remerciements à Jean-Paul F5RAZ

F6HQY Une Antenne entre les dents

Bernie de F6HQY nous propose sur un ton comique et incisif, une nouvelle concernant notre monde radioamateur. A prendre au second degré, cette nouvelle en plusieurs parties s'intitule :

CHATEAU FOIREUX (dernière partie)

Toute ressemblance avec des personnages existant ou ayant existé est fortuite et involontaire de l'auteur.

Comme tous les premiers vendredis de chaque mois, les radioamateurs du département convergèrent vers le siège du radio club sis 2 bis avenue du Général Kifuit-Desburnes.

Jacques, le président local du REFU, attendit vingt et une heures pétantes pour ouvrir la réunion. Il aimait à être ponctuel car, si avant l'heure, c'est pas l'heure, après l'heure ce n'est pas l'heure non plus. Un moment, Jacques se demanda s'il n'allait pas accorder un délai de quelques minutes supplémentaires vu que l'assistance était pour le moins clairsemée. Qu'on en juge d'ailleurs puisque étaient présents F7BOF, Robert, F7TU André, F7WMU Cédric et le président lui même, alias F7ATB. De plus, ce mois de novembre était particulièrement froid et la prévention routière annonçait par endroit des plaques de verglas.

Vers vingt et une heures vingt, Jacques frappa sur la table en contreplaqué pour attirer l'attention des trois autres qui étaient en train de lire, qui Mégahertz, qui Ondes Magazine ou bien encore Radio Ref :

- Bon, je n'ai rien de particulier à dire, je n'ai d'ailleurs même pas reçu le bulletin F8REF. Il y a des questions diverses ? Au fait, personne n'a été à Hamexpo ? J'ai entendu dire que ç'a été un sacré fiasco ! Bon... Hé bien nous allons boire un verre. Rolande a fait un marbré au chocolat qui m'a l'air délicieux. Qui a amené la boisson ?

- C'est moi, fît Robert. J'ai trouvé un Lambrusco dont vous allez me dire des nouvelles !

- Alors, André, cette nouvelle voiture ? Tu as pris quoi, avec l'argent de l'assurance ?

- Une Laguna... J'aurais bien repris un Scénic mais bon... Je vais la chercher demain.

- Je peux t'amener, si tu veux ? Je n'ai rien de particulier à faire demain...

- Surtout pas ! J'ai l'impression que mes voitures ne t'aiment pas beaucoup. Je prendrai un taxi...

Les verres étaient en train de s'élever lorsque Jacques fît :

- Au fait, je pense que nous pourrions trinquer à la santé du Vicomte, non ? Quand je pense que le préfet l'a fait interner d'office... Incapable majeur, qu'il a dit, il était indispensable de le placer en institution pour qu'il ne mette plus sa vie en danger...

- Oui, j'ai vu ça dans le journal... Une bien triste affaire, il paraît que le vieux gueulait comme un putois lorsqu'ils l'ont embarqué : « C'est les gars de la radio qui ont foutu le feu ! C'est pas moi !... ». Une chance que personne n'ait cherché à en savoir plus... Faut dire qu'avec un cinglé pareil, les flics n'avaient pas besoin de se fatiguer.

Ils étaient en train de trinquer lorsque la porte du local s'ouvrit. Deux gars entrèrent, ils avaient l'air jeunes, plus jeunes que Cédric même :

- Bonsoir ! Je suis F7XBN et voici F7PBA. Ben dites donc, le radioclub n'est pas facile à trouver !

Jacques fît les présentations en leur souhaitant la bienvenue, ça faisait tellement longtemps qu'un tel évènement ne s'était pas produit qu'il avait un peu oublié ce qu'il fallait faire ou dire. Les deux jeunes gars s'installèrent et prirent naturellement le verre qui leur était tendu ainsi qu'une part du gâteau. Ils expliquèrent ensuite qu'ils venaient de trouver du boulot dans le secteur et qu'ils comptaient s'inscrire à ce club. L'un d'eux conclut sa présentation en disant :

- Nous, ce qui nous plaît vraiment, ce sont les activités, les expéditions, les activations de châteaux... Si vous avez des projets comme ça, vous pouvez compter sur nous ! On va mettre le feu aux statistiques nationales !

André s'étouffa avec sa boisson et eût une quinte de toux au terme de laquelle son dentier atterrit sur la table en contreplaqué.

*

Note de l'auteur : il s'agit encore une fois d'une fiction totale et les personnages ont été «construits » pour l'occasion. Toute ressemblance avec de « vrais » gens serait donc fortuite et involontaire. Il en va de même pour les situations décrites ! **FIN**

F6HQY

Le blog de Bernie, F6HQY, à visiter !
http://f6hqy.skyrock.com/

•1008• Prix TTC valables pour le mois de parution - Port en sus

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pour le DX exigeant HF/50 MHz 100w

YAESU

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Histoires vécues
La rubrique anecdoctes

Je m'appelle André, indicatif ON4MER.
Je me trouvais il y a quelques temps en vacances en France du coté de Domfront... Un de mes amis radioamateur Belge se trouvant dans la région nous décidames de lui faire une petite visite... Mais voilà...Pas d'adresse, pas de 600. Bah , pas de problème il suffira de se repérer aux antennes... Oui mais dans la région chaque QRA a la sienne voire plusieurs.
Je me décide donc en désespoir de cause et sans grand espoir de lancer appel en mobile.
A peine le micro relaché..salut André, que fais-tu dans le coin ? Au grand étonnement de mon épouse qui interloquée me sort "mais enfin comment te connait-il celui là ?"
C'était simplement un O.M. (dont j'ai oublié le call) que j'avais contacté depuis la Belgique à plusieurs reprises. Ensuite il me dirigea vers Etienne ravi de nous voir. ham spirit. 73's d'André

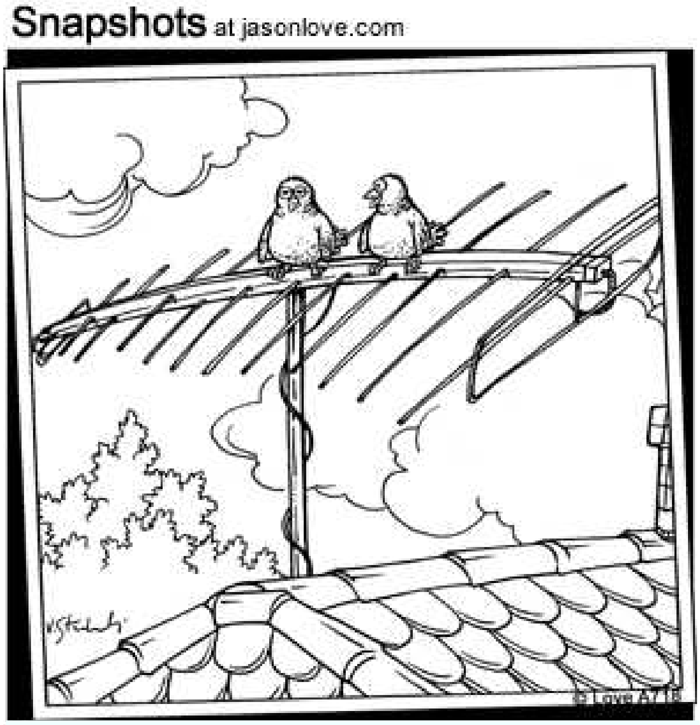
Une histoire "historique" :
C'est à la fin du XIXème siècle qu'un nommé Guillaume Marconi inventeur du télégraphe sans fil entra un jour dans un restaurant londonien. L'hôtelier désirait un autographe de Marconi, mais il n'osait lui demander car Marconi avait la réputation d'un homme réservé et discret. Pour attirer l'attention du savant et faciliter la requète il ajouta sur le menu : haricots à la "Marconi". L'illustre italien s'irrita, demanda des explications et apprit qu'il s'agissait de haricots sans fil !
Il finit par sourire et le restaurateur obtint l'autographe. Les haricots à la "Marconi" devinrent du coup un plat renommé.
F5SLD - Vincent

Un jour j'étais en mobile, sur l'autoroute du nord en direction des Pays-bas. L'YL conduisait et moi je trafiquais. Je lance appel sur 20 mètres en phonie, un français me répond mais il passe petit, tout juste compréhensible. J'étais prêt à abandonner, mais je décida de mettre le casque et d'essayer le QSO. Il s'agissait de F05GV de Tahiti et c'était le vendredi 13 avril 2001. Un QSO de presque 16000 kms en roulant à 120km/h ! Ce n'est pas exceptionnel, mais ça fait toujours plaisir de faire un DX dans ces conditions, surtout que sur le chemin du retour, j'avais contacté un australien, toujours sur 20 mètres en USB. Les conditions de trafic étaient, Yaesu FT-100D, 100 watts et antenne ATAS-100.
Antenne que je possède toujours et qui m'a toujours donné satisfaction de 7 à 144 Mhz, dont une pléiade de QSO avec les européens sur 50 Mhz depuis les Pays-bas.
73's PA/F5SLD/M - Vincent

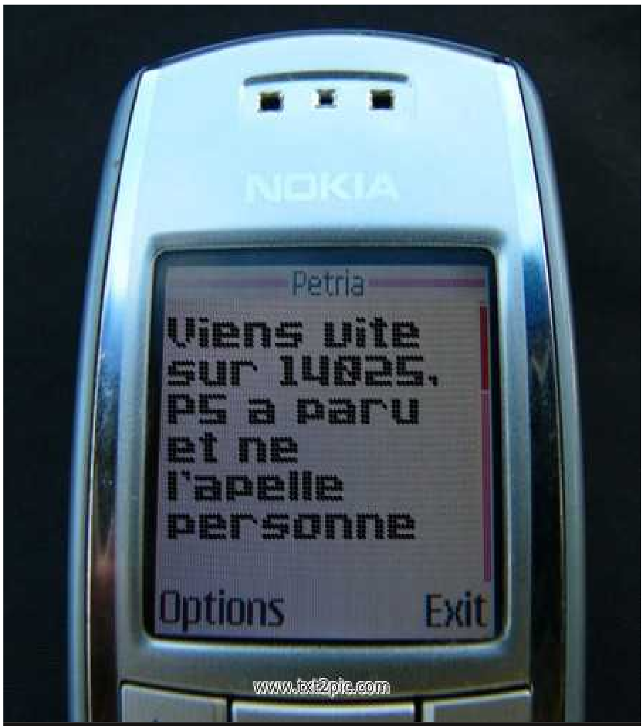
On pourrait commencer cette histoire par : Il était une fois, dans le début des années 80, un papa cibiste qui avait une petite fille atteinte d'une malformation cardiaque. Les hôpitaux Français ne possédaient pas les équipements nécessaires à son opération et seul un hôpital en Amérique pouvait assurer l'opération. Le coût du voyage était trop lourd pour la famille, et elle ne pouvait pas compter sur les banques. Aussi, ce papa eu l'idée de lancer des appels sur les ondes du 27 Mhz afin d'expliquer la situation et faire appel à la générosité des cibistes. L'amitié, l'entraide et la solidarité ne sont pas de vains mots dans le monde de la C.B. Ses appels ont ému la France entière qui s'est largement mobilisée. Ils étaient relayés jour et nuit pendant 6 mois. Les nombreuses associations de l'époque, s'occupaient de la récolte des dons qui affluaient de tous les coins de France, et le papa cibiste put envoyer sa fille aux USA pour la faire opérer. Voilà encore un exemple où la CB à joué un rôle essentiel dans le sauvetage d'une personne en danger. 88 de Ludivine

COMIC'S HAM

La rubrique détente



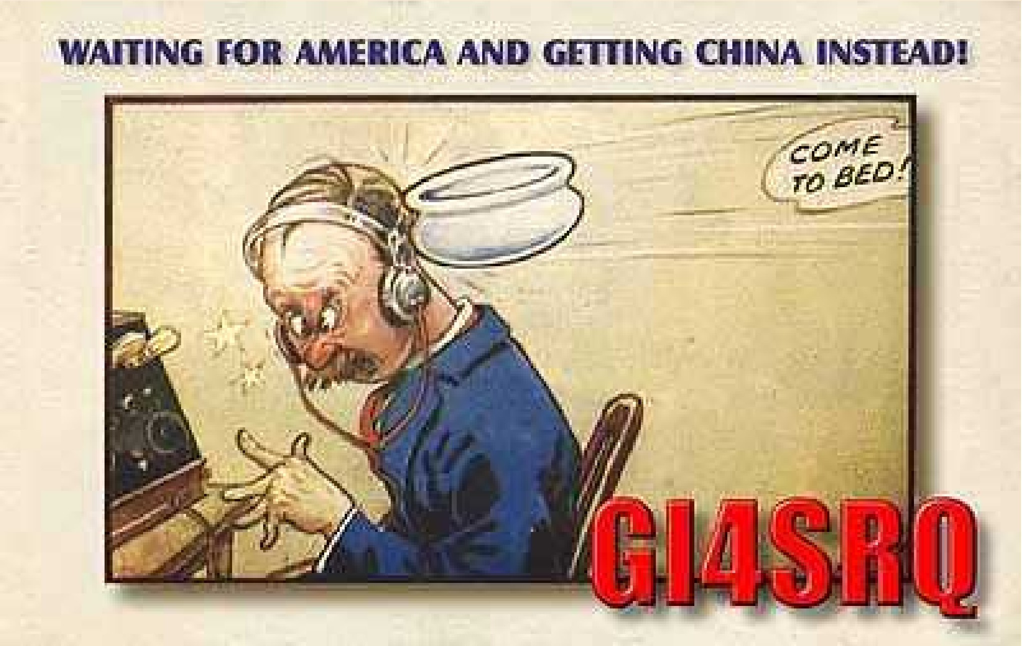
Qu'est-ce qu'on va faire
quand il auront le câble ?



Viens vite sur 14025. P5 a paru et ne l'apelle personne

Le DX cluster en 2008 !
Source : http://www.radioamator.ro/

LA QSL DE LA SEMAINE


WAITING FOR AMERICA AND GETTING CHINA INSTEAD!
COME TO BED!
GI4SRQ

HAM-MAG

Le 1er E-magazine hebdo pour radioamateurs, amateurs radio, SWL...

Le Salon radioamateur de Monteux (84)

Par F4FIS

F4FIS
Radio club:
F5KPO
A.R.V.84
Association des
Radio-amateurs Vauclusiens
Radio club:
F5KPO
232, Route de la prévôté 84210 Althen les Paluds Tél.serveur. 90.62.14.71

NUMERO 13
GRATUIT

22 DECEMBRE 2008
http://www.ham-mag.fr

EDITORIAL

Numéro 13... Chiffre symbolique et qui conclut l'année en beauté.

En effet, entre noël et le jour de l'an, je prends quelques jours de congés pour passer les fêtes en famille, ce numéro est le dernier de l'année et le prochain est prévu pour le 05 janvier 2009.

Et c'est aussi l'heure du bilan. Bilan positif et encourageant qui prouve que l'esprit O.M est toujours présent malgré les aléas de notre activité. Je ne saurai jamais assez remercier tous les acteurs de ce magazine : les auteurs des articles et des rubriques, ceux qui m'envoient des infos, des encouragements, des remerciements et ceux qui ont envoyé des dons.

Plusieurs lecteurs ont émis l'idée suivante :
Plutôt que d'envoyer le journal en PDF qui surcharge parfois les boites mail et dont la qualité est inférieure, pourquoi ne pas mettre le fichier sur le serveur DL.FREE.FR protégé par un mot de passe. Ainsi, vous recevrez chaque semaine dans votre courriel le lien de téléchargement avec le mot de passe adéquat. Ce qui permettrait d'offrir un journal de meilleure qualité. Mais il faut accepter de jouer le jeu, c'est à dire, ne pas diffuser le lien, mais inviter les O.M. intéressés à s'abonner. Car connaître le nombre exact de lecteurs est important vis à vis des (futurs) partenaires économiques. Il en va de la pérennité du journal.
Alors je vous pose la question : préférez-vous recevoir un lien ou le magazine directement ?
Sachant que Le problème du serveur est qu'il risque de saturer quand tout le monde téléchargera en début de semaine et que le système d'envoi par courriel est plus pratique.
Cette semaine, nous inaugurons la rubrique courrier des lecteurs. Je vous rappelle que nous ne sommes pas responsables des écrits et que nous souhaitons juste aider à faire passer des idées, des avis ou des informations grâce à la diffusion mondiale de ce magazine. Nous éviterons les sujets source de polémiques qui n'amèneront rien de positif à notre communauté.

Il ne me reste plus qu'à vous souhaiter à vous et toute votre famille, de bonnes fêtes de fin d'année, un joyeux noël et une année 2009 prospère et pleine de santé.
Rendez-vous le 05 janvier...

Bonne lecture et cordiales 73 !
Vincent FAUCHEUX - F5SLD
HAM-MAG
ham.france@free.fr
http://www.ham-mag.fr

Photo de F5UNU, Alain

N'oubliez pas votre cadeau à télécharger sur le site.
Cliquez sur le paquet cadeau en haut, à droite de la page d'accueil.

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Remerciements à **F0EED, F1AGW, F1OK, F4ABV, F4FIS, F4FUC, F5IRO, F5UNU, F6BCU, HB9HFL, ON3GO, ON3MAJ, ON4XA, YO4PX, Jérôme**...

Merci aux différents annonceurs qui nous accordent leur confiance et à tous les O.M. qui nous ont envoyé des messages de soutien et des dons. Pardon à ceux que j'aurais oubliés...

Comité de lecture : F1CHF, F4DXU, F4FUC, F5IRO, F5OZK, F5RAZ, F5SLD, F6BCU, F8CRM

Notre site (à visiter) :
http://www.ham-mag.fr (français)
http://www.ham-mag.com (anglais)

Vous pouvez nous contracter par Mail : ham.france@free.fr

Nous incitons nos lecteurs à ne pas copier et envoyer cette revue à leurs amis mais plutôt les inviter à s'abonner. C'est gratuit et sans publicité intempestive.
N'oubliez pas que ce magazine a été réalisé par des bénévoles au détriment de leurs heures de loisirs et de trafic.

Le courrier des lecteurs

Les courriers publiés n'engagent que la responsabilité de leurs auteurs

Claude, amateur radio de Suisse

Bonjour à toutes et tous,
Permettez-moi avant ces fêtes d'avoir une pensée pour tous les cibistes ou radios amateurs qui nous ont quittés, tant il est vrai que c'est souvent à cette période que cela se ressent encore plus fort (...). J'aimerais avoir une pensée particulière pour une personne qui au moment où je vous écris ce mot nous a quitté il y a dix ans déjà.
Cet homme extraordinaire beaucoup d'entre vous l'ont peut être croisé, entendu et qui c'est, profité de quelque jours chez lui à Viapre le Petit. Quelles belles semaines de bidouilles, QSO et contacts avec tes amis routiers. Je veux parler de mon pote Williams dit le Suisse, alias florida 666. Beaucoup de Radioamateurs ou cibistes, routiers et les autres, GES à Savigny le Temple, les gars de Troyes sans compter tous tes amis Suisse de Morges et environs ont pu apprécier son savoir et son franc-parler si coloré et si particulier. Tu m'as tout appris de la bidouille et tu es toujours là Will. Cela fait déjà dix ans mais sache que personne ne t'a oublié et que tu es toujours dans nos cœurs. Avec toutes mes amitiés et mes vœux de bonheur et de santé à toutes et tous et encore un grand bravo à toute l'équipe de Vincent pour ce magnifique journal. 73's QRO.

Gustave Dernelle, ON4KGV, de Belgique

Bonjour,
C'est avec grand plaisir que je reçois votre Ham magazine, et je vous en remercie.
Suite à votre annonce dans la Ham12, je vous signale que j'ai un site consacré à la réception des images satellites et en particulier les "NOAAs".
Ce site est en anglais pour lui donner une plus grande diffusion, la page "Link" donne l'accès en anglais et en français à l'historique de notre région sur la bataille de Waterloo.
Adresse: http://www.gdernelle.tk
Meilleurs 73s Courriel: on4kgv@skynet.be

Franck, F-14368 de France

Bonjour,
Je pense qu'il faut avoir des idées pour amener un peu de sang neuf à notre communauté. Déjà plusieurs pays d'Europe ont réformé les conditions d'accès au radioamateurisme et ont pû attirer de nombreux nouveaux radioamateurs. Pour cela, ils ont créé des licences novices avec un examen très simple et pratiquement sans technique. Pourtant les nouveaux radioamateurs novices de ces Pays (Royaume Uni, Pays-Bas, Belgique) ont le droit aux bandes décamétriques et donc au DX. Est-il normal qu'un novice francais ait seulement droit à la bandes des 2 mètres ? Je pense qu'une solution pour tenter de regonfler les effectifs français serait de s'aligner sur les droits des novices de ces Pays (...).
73's à tous

Le Salon radioamateur de Monteux (84)

Par F4FIS

Samedi 8 novembre 2008 le salon radioamateur de Monteux dans le Vaucluse a connu sa 31ème édition avec toujours le même succès.

Les exposants pros et amateurs habituels étaient là, fidèles au rendez vous. Certains venant d'Italie comme DAE télécomunicazioni et IK1PML ou d'Angleterre comme KZJ communications.

Les pros Français comme Icom, GES Cote d'Azur, Inter Technologies engrangeaient des commandes pendant que les associations et brocanteurs divers faisaient le bonheur d'autres passionnés.

IK1PML continuait quant à lui d'imprimer nos cartes QSL, casquettes et autres supports.

F4FIS
Radio club: F5KPO
A.R.V.84
Association des Radio-amateurs Vauclusiens
Radio club: F5KPO
232, Route de la prévôté 84210 Althen les Paluds Tél.serveur: 90.62.14.71

Le club organisateur : A.R.V. 84

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GES CÔTE D'AZUR
B.P.87 / 06212 MANDELIEU Cedex
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GES côte d'azur

ICOM france

IK1PML

Inter technologies

DAE

KJZ communications

Les bidouilleurs n'étaient pas oubliés car de nombreux vendeurs brocanteurs détenaient le tube QRO, le connecteur introuvable, la self à roulette ou l'appareil de mesure utile pour la dernière création en cours.

Les collectionneurs pouvaient eux aussi dénicher de très beaux récepteurs ou tranceivers vintage. Le stand de F4EOH ne manquait pas d'attirer l'admiration des amateurs de QRO et de home made grâce à de nombreuses et belles réalisations.

Ce salon était enfin aussi une excellente occasion de revoir des copains dans une ambiance très conviviale autour d'une passion commune. Merci donc et félicitations aux organisateurs et à l'année prochaine pour la 32ème édition. **Avec mes 73 à tous - F4FIS Jean-Paul**

La station de la semaine
le radio-club ON4RAC

Le club RAC est né en 2006 avec une bande de copains noués par une belle amitié et passionnés de radio depuis pas mal de temps et ce malgré les nouvelles technicités que sont Internet et le GSM.

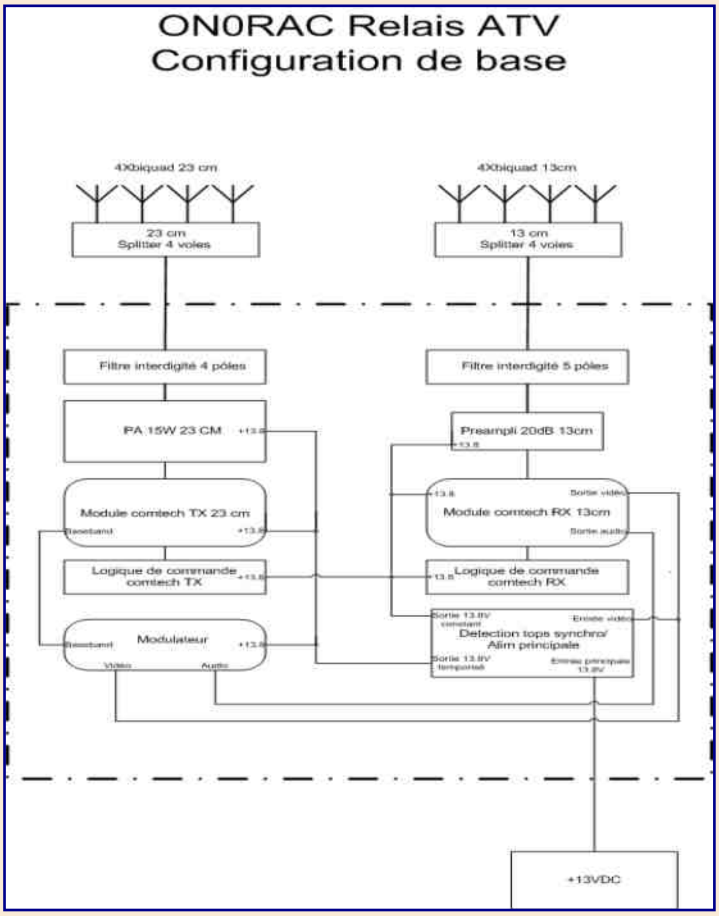
Il fut créé le 18-10-2006 et officialisé par notre fédération qui est l'UBA, le 15-11-2006.
Un indicatif du club "ON4RAC" parachèvera cette officialisation.
Un local fut trouvé à Jemeppe S/S - ONOZ dans la province de Namur afin d'y pouvoir y tenir nos réunions et les différentes activités liées à notre passion.

Nous tenons ici à remercier la commune de Jemeppe S/S qui nous héberge gracieusement et qui nous aide quand cela est nécessaire pour nos activités extérieures.
Avec une équipe ainsi formée, cela donne la bougeotte dans le club et beaucoup d'activités sont déjà passées et pas mal de projets sont encore sur la table. Notre président "ON7MFY" nous épuise ! HI

Partant du principe que le fer à souder est à promouvoir, nous avons voulu mettre en avant la construction de matériels dédiés à la radio et utilisable par tous (ONL,ON3,...).
Constructions d'antennes, émetteurs-récepteurs HF, VHF et ATV. Le Forty et l'Octus furent réalisés en plusieurs exemplaires afin d'être utilisés au sein du club et en activités extérieures.
Apprentissage de la CW par l'ensemble des Oms du club, ce qui facilite les contacts en QRP, c'est bien connu.
Pour tester l'ensemble de ces constructions et montages, un terrain nous a été offert par la ville de Fleurus. Terrain situé derrière le centre "Loisir des Forêts" de Fleurus.
Nous pensons également que la promotion de l'activité "Radio" doit se faire au maximum en se fondant avec d'autres qui ne sont pas nécessairement "Ham".
ON4OKS en est la plus belle preuve.
Chaque année à lieu à Spy, la fête de l'A.S.B.L. "Les amis de l'homme de Spy" et allier le paléolithique avec les derniers moyens de communications actuels furent pour l'ensemble des participants, une grande satisfaction.
Au vu de ces résultats, ON4OKS sera reconduit chaque année.
Pour cette année 2008, une brocante HAM, ON4OKS, Expo modélisme à Jemeppe /S/S, Fête de Napoléon avec la ville de Fleurus plus quelques "activations", voilà la plus belle preuve que notre club n'aime pas rester inactif. ;-)

Le 22 mars 2009 aura lieu notre troisième brocante en collaboration avec la ville de Fleurus. Emplacement habituel et identique à l'année passée. Vous trouverez plus d'informations pour vous y rendre ou participer sur le site de notre club.

Notre prochain projet déjà bien avancé est la réalisation d'un relais télévision qui sera situé en JO20IK. Avec l'aide d’ON5JEF, ON1AA et les membres du club, il devrait bientôt voir le jour. Projet modulable qui bien entendu, évoluera au fil du temps.



Voilà pour la petite présentation de notre club et vous trouverez l'ensemble de nos activités et bien d'autres choses des plus utiles sur le site web de notre club: http://www.rca-ham.be

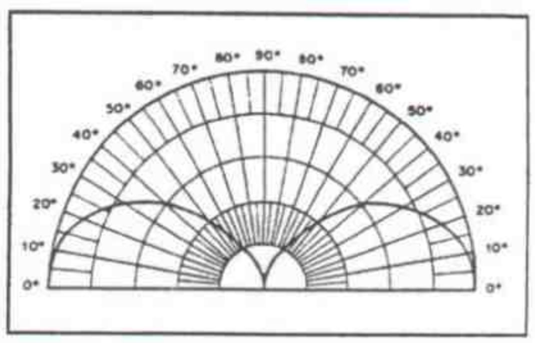
Nos meilleures 73's à tous
ON3GO, webmaster site ON4RAC

L'antenne LINDENBLAD
Par F1AGW

1 - Caractéristiques de l'antenne
2 - Matériel nécessaire
3 - Préparation
4 - Assemblage
5 - Résultat

1 - Caractéristiques de l'antenne

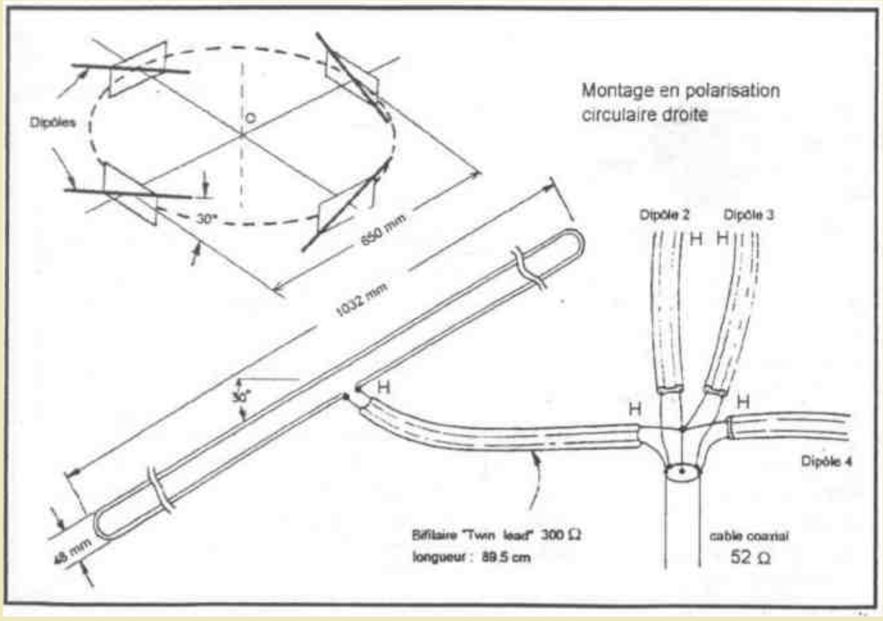
L'antenne Lindenblad présente des caractéristiques idéales pour la réception des émissions des satellites défilants lors des passages très bas sur l'horizon.



Dans le plan horizontal, le diagramme de rayonnement est omnidirectionnel et dans le plan vertical il est particulièrement adapté pour favoriser les élévations basses et moyennes. (Voir ci-contre).

De plus elle est spécialement étudiée pour la réception des signaux en polarisation circulaire, cas général pour les satellites météorologiques.
Le sens de la polarisation est donné par celui de l'inclinaison des trombones.
Avec cette antenne vous pourrez constater un niveau de signal beaucoup plus constant et une coupure franche lors du passage du satellite sous l'horizon. Fini le barrage d'Assouan perdu dans le souffle où les icebergs du Groenland noyés dans un brouillard artificiel...

Cet aérien est essentiellement constitué de 4 dipôles repliés positionnés aux extrémités d'une croix suivant la disposition de la figure ci-dessous.

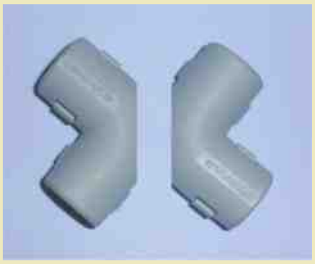


2 Matériel nécessaire

- Le support principal des éléments est constitué d'une boite de raccordement en plastique avec douille porcelaine incorporée de marque Legrand (Boite support de douille E27 ref N0065N12/01) *pub gratuite !*

- 4 longueur de tube PVC de 25mm.
La longueur de ces tubes devra être suffisante pour obtenir un espacement entre les dipôles en vis à vis de 0.3 lambda, soit pour une fréquence centrale de 137.500 MHz environ 65 cm.

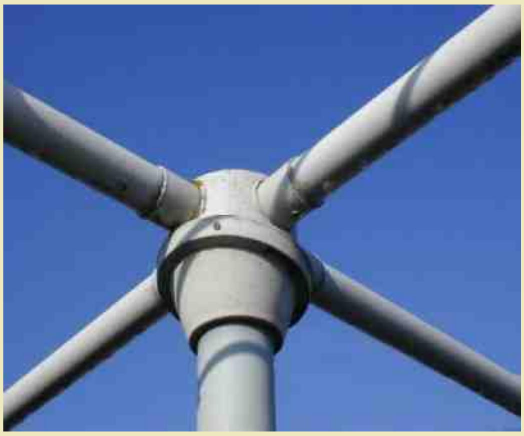
- Un croisillon pour tube PVC de 25mm qui servira à solidariser fermement les tubes dans la boite.



N'ayant pour ma part, pas trouvé de croisillon pour tube de 25 mm, j'ai utilisé deux coudes que j'ai coupés selon la figure ci-contre puis rapprochés et collés à l'araldite.

3 Préparation

Dans un premier temps il faudra débarrasser la boite de sa douille parfaitement inutile puis des cabochons de plastique qui obturent les 4 trous latéraux. Ces trous devront être très légèrement agrandis pour permettre le passage à force 4 tubes de PVC.
Il faudra ensuite meuler légèrement les extrémités et les faces du croisillon pour qu'il s'intègre parfaitement à l'intérieur de la boite et que ses orifices tombent parfaitement en face de cette dernière.



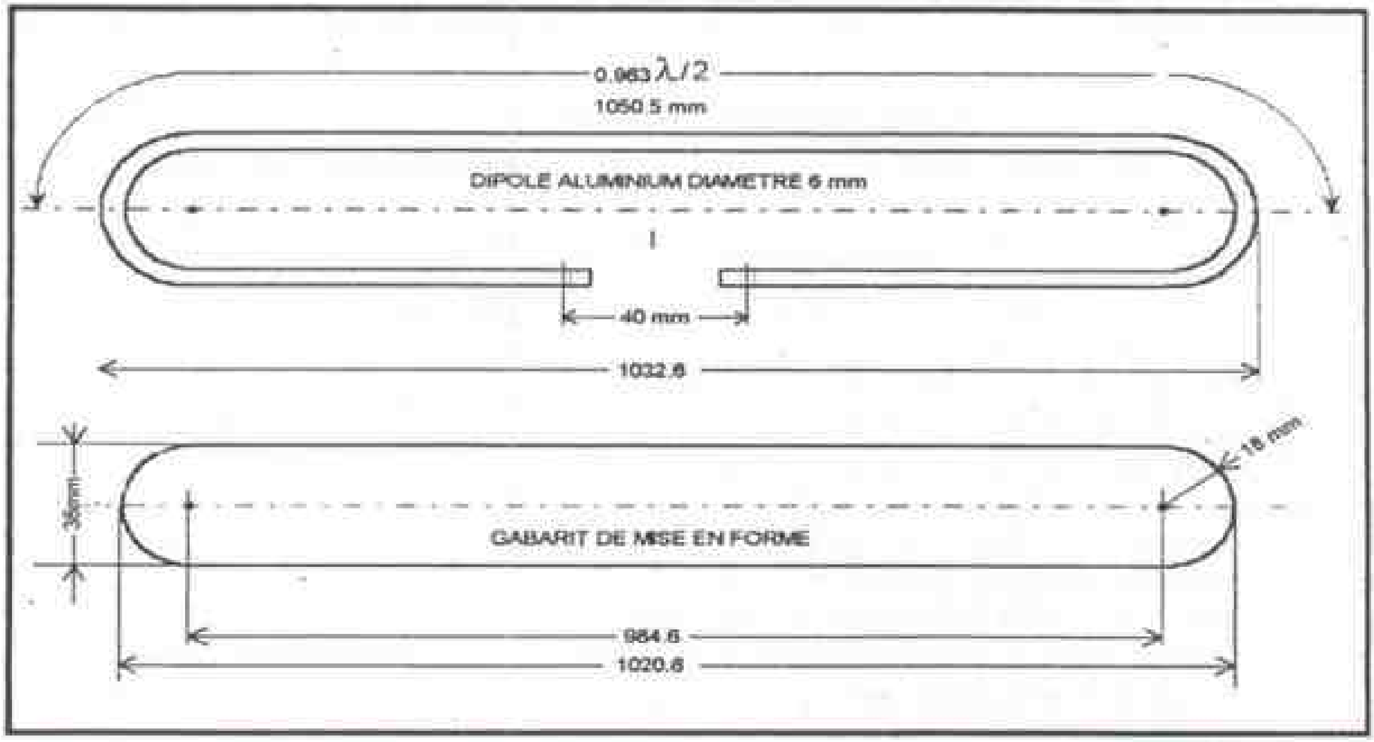
Cette opération menée à bien, coller le croisillon au pistolet à colle ou à l'araldite afin qu'il fasse corps parfaitement avec la boite.

Après séchage, enfilez à fond les tubes dans les orifices, sans les coller, et percez les trous de fixation des trombones (voir détail plus loin) aux extrémités des tubes de façon à obtenir un espacement de 65cm.

Laissez 1 ou 2 bon centimètres de tube au deçà du perçage pour la mise en place d'un bouchon de fermeture.

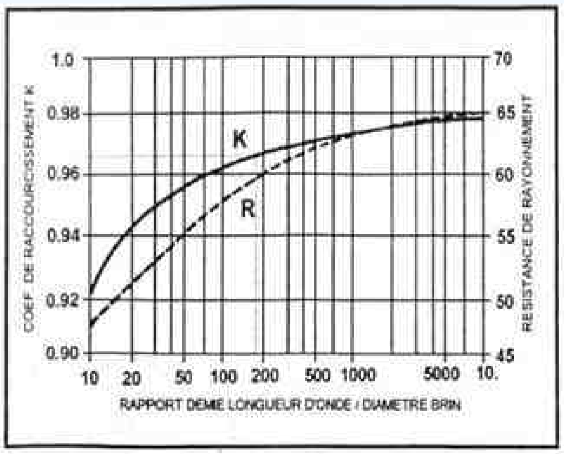
Il faut ensuite ménager un trou d'environ 20mm de diamètre dans la partie du croisillon qui fait face au trou de la douille, afin de permettre le passage des câbles dans le support vertical de l'antenne.
Ce support qui sera solidement collé dans la partie démontable de la boite, sera également en PVC ou en fibre de verre.

Préparation des dipôles



Les dimensions données sur le schéma correspondent à un diamètre de brin de 6mm et pour une fréquence centrale de 137.5 MHz. Les 2 brins du dipôle replié étant de même diamètre, leur écartement n'a aucune influence sur l'impédance résultante de l'ensemble. Par contre, le diamètre du brin modifie légèrement la résistance de rayonnement
Il est quand même bon de rappeler que plus le diamètre du brin est important, plus la bande passante de l'antenne est large et que le trombone présente des caractéristiques d'accord également assez large.

Dans le cas où vous souhaiteriez pour une raison d'approvisionnement, utiliser un diamètre de brin différent, vous pourrez vous référer a l'abaque ci-contre qui vous fournira le coefficient de raccourcissement à appliquer à la longueur du dipôle de base en fonction du rapport de la demi longueur d'onde au diamètre du brin.



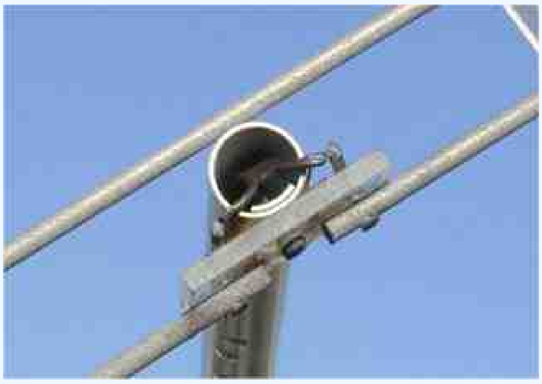
Sachant que l'impédance d'un dipôle simple est de 73 Ohms et que celle d'un dipôle replié est affecté d'un facteur 4 celui ci vaut donc environ 300 Ohms (en théorie). Dans notre cas pour de la barre d'aluminium de 6mm (voir abaque), la résistance de rayonnement est ramenée à 4 x 61 Ohms soit environ 240 Ohms.
Si vous utilisez des brins de 6 mm, vous n'aurez pas besoin de recalculer le gabarit de pliage qui est présenté sur le schéma précédent. Ce gabarit est fabriqué dans un morceau de bois dur et est le seul moyen de réaliser des trombones avec précision et de façon répétitive.

Chacun adaptera sa méthode de pliage à sa façon... Le plus simple est de couper les barres d'aluminium de 6mm à une longueur de 2.10 m sans tenir compte de la coupure de 40mm qui sera effectuée après pliage complet. Le brin étant parfaitement centré sur le gabarit et l'ensemble serré dans un étau il est très facile de réaliser les pliages des extrémités puis de les terminer en les serrant à leur tour de la même manière (intercalez un morceau de bois dur).

Attention si vous utilisez du duraluminium à la place de l'aluminium n'oubliez pas de chauffer les brins à l'aide d'une lampe à souder, afin de les écrouir.

Le pliage des trombones terminé, il faudra percer les extrémités à un écartement de 40mm par 2 trous de 3mm de diamètre. Ces 2 trous servent à fixer les trombones sur la plaque de Plexiglas de 4mm d'épaisseur qui assure la liaison mécanique avec les tubes de PVC (voir ci dessous)

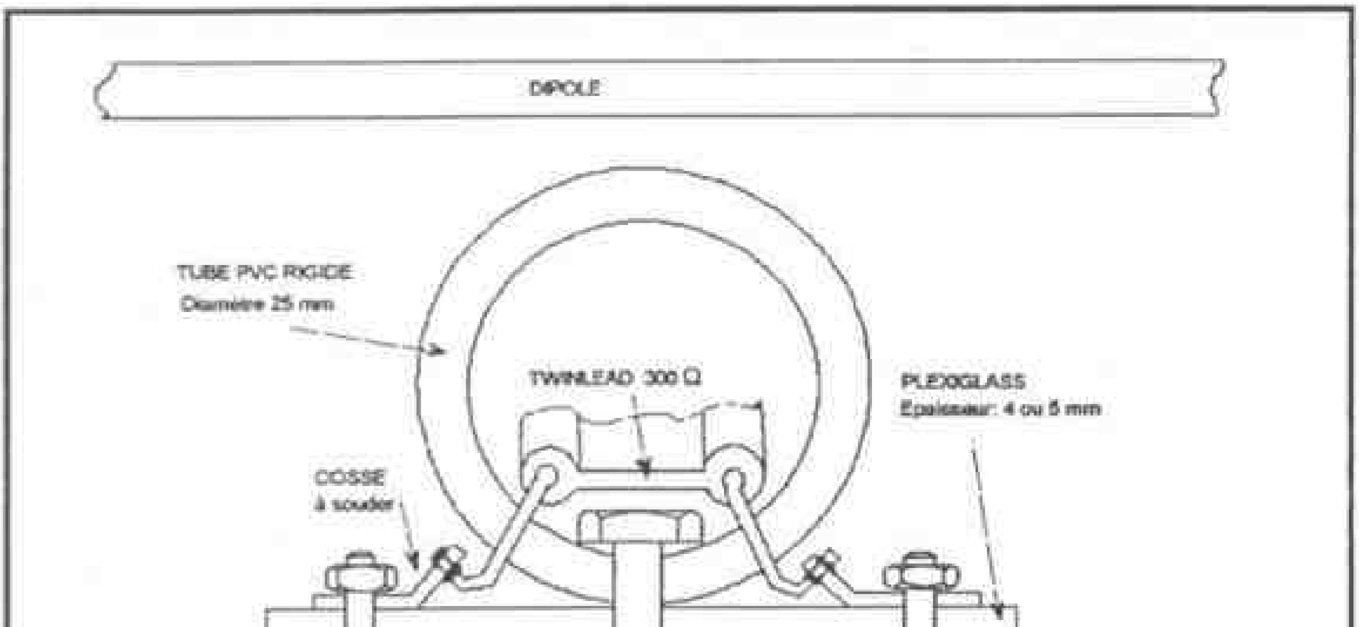
4 Assemblage



La plaque de Plexiglas est percée en son centre d'un trou de 4mm de diamètre qui permet de la fixer solidement sur le tube au moyen d'un petit boulon inox de 4mm.

Le raccordement aux câbles de liaison est effectué grâce à deux petites cosses à souder serrées sous les écrous des boulons inox de 3 qui fixent les trombones à la plaque de Plexiglas.

Comme nous l'avons évoqué précédemment, le raccordement des trombones est effectué avec du câble méplat d'impédance caractéristique 300 Ohms.



Le schéma de la figure page précédente indique clairement la façon de connecter le câble aux dipôles. On taillera donc 4 longueurs égales à une demi onde dont le but est de présenter à leur extrémité des signaux en phase et des impédances égales à celles des dipôles, soit 240 Ohms.

Pour calculer les longueurs de câble, on fera intervenir bien entendu le coefficient de vélocité qui, pour le méplat Twin Lead 300 Ohms que l'on trouve en France, est de 0.82. Ce qui explique la longueur 89.5 cm marquée sur la figure 2 au lieu des 109 cm que donne le calcul pour une demi onde.

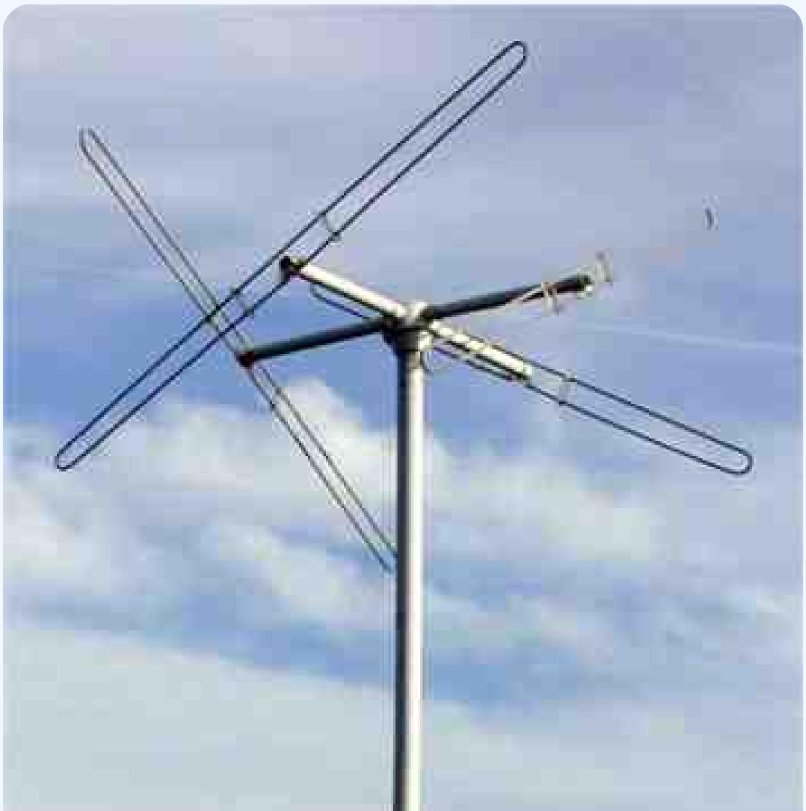
Le couplage des 4 longueurs de Twin Lead doit être effectué conformément à la figure de la page 1. C'est à dire que toutes les extrémités des câbles raccordées à la partie des trombones dirigés vers le haut (marquées H) doivent être reliées ensemble.

Les brins du Twin Lead ainsi reliés sont soudés à l'âme centrale d'un coaxial de 52 Ohms de longueur quelconque qui assurera le transport du signal jusqu'au récepteur ou au préamplificateur. Les brins reliés à la branche basse des dipôles seront eux raccordés à la tresse de ce même câble.

L'ensemble du raccordement sera soigneusement isolé au vernis HF, puis enfilé dans le tube vertical support d'antenne que vous avez soigneusement collé à la partie démontable de la boite Legrand modifiée. Cette partie de mât, rappelons le, ne doit pas être métallique. Des cannes en fibre de verre ou des tubes PVC de 40mm pour écoulement d'eau feront parfaitement l'affaire. Pour finir revissez les 2 vis d'assemblage de la boite (après avoir étanchéifié le joint).

Il ne reste plus qu'à régler l'inclinaison des trombones a 30 degrés par rapport à l'horizontal (dans le bon sens... voir schéma) et à coller les tubes dans le croisillon pour bloquer l'ensemble dans la bonne position.

5 Résultat



La description qui m'a servi de modèle pour la réalisation de cette antenne à été tiré du n°1 de mars 1993 de la revue "Météo Satellite Info" de Jean DARMANTE , revue qui a malheureusement disparu en 1995.

73 de Jean-Louis F1AGW
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http://f1agw.free.fr

Les RFID
(Radio Fréquency IDentification)
Par F4FUC

Nous vivons dans un monde où l'utilisation de fréquences radio est omni-présente. Téléphones portables, télécommandes diverses, procédés anti-vols, télépéages, cartes de transport, contrôles d'accès, Wi-Fi et bien d'autres technologie utilisant un système radio sont rentés dans la vie courante. De nombreux procédés techniques existent afin d'identifier et de suivre un produit. Les fréquences radio sont énormément utilisées dans la « traçabilité ». Les RFID envahissent notre société de consommation et vont se généraliser dans l'avenir.

Les RFID (Radio Fréquency IDentification) :

Une identification par radio fréquence (RFID) est basée sur l'échange d'informations entre deux sous-ensembles afin de localiser un objet et d'en connaître les caractéristiques à distance. Ce système se compose d'un lecteur qui transmet un signal radio sur une fréquence déterminée vers un ou plusieurs supports radio (étiquettes électroniques ou puces électroniques) situées dans son champ de lecture. Ces supports, appelés marqueurs, transmettent en retour un signal. Lorsque ces marqueurs sont "réveillés" par le lecteur, un dialogue s'établit selon un protocole de communication prédéfini et les données sont échangées. L'identification radio-fréquence RFID, résulte donc du mariage de deux technologies: la technologie radio et celle de la microélectronique.

Le lecteur :

Le lecteur émet des ondes radio sur une fréquence spécifique. Quand l'étiquette ou la puce passe dans le champ électromagnétique, elle détecte le signal de celui-ci. Le lecteur lit les données et celles-ci sont envoyées vers un serveur pour être traitées. Le lecteur active le marqueur qui passe dans son champ électromagnétique en lui fournissant à courte distance l'énergie dont il a besoin. La fréquence utilisée est variable, selon le type d'application et les performances recherchées. Une fréquence élevée présente l'avantage de permettre un échange d'informations à des débits plus importants qu'en basse fréquence. Une fréquence basse bénéficiera d'une meilleure pénétration de la matière. On évite toute fréquence qui serait en résonance avec celle des molécules d'eau contenues entre autres dans le corps humain pour des raisons de sécurité (principe du four à micro-ondes).

Le marqueur :

Le marqueur présent sur le produit à identifier peut prendre la forme de radio-étiquette autoadhésive ou de microcapsule incorporée dans les objets et même implantée sous-cutanée dans des organismes vivants (animaux, corps humain). Appelé également « radio-étiquette » ou « tag », ce support d'informations très discret et léger, combine le traitement d'un signal et le stockage des données. Il comprend un circuit intégré et une antenne associée qui lui permet de recevoir et de répondre aux requêtes radio émises depuis le lecteur. L'énergie nécessaire au fonctionnement du marqueur, afin d'émettre le signal, est fournie soit par une pile interne pour les marqueurs actifs, soit téléalimenté par le champ électro-magnétique émis par le lecteur pour les marqueurs passifs. Les marqueurs peuvent également être appelés "transpondeur" (TRANSmitter/resPONDER) à cause de leurs fonctions d'émission et de réponse.

Caractéristiques :

Comme les fréquences allouées aux radioamateurs, les RFID sont utilisées dans des fréquences spécifiques et attribuées pour les 3 régions connues de l'UIT.

Principales fréquences allouées au RFID pour la région 1 :

< 135 KHz (LF) 13.56 MHz (HF) 863 à 915 MHz (UHF)

Voisines de 2.45 GHz (SHF)

Les différents systèmes RFID sont caractérisés principalement par leur fréquence de communication. Néanmoins, d'autres critères définissent également ces étiquettes «intelligentes» tels que : la vitesse de transfert des données, la distance de lecture, l'origine et la nature de l'énergie, la taille de la mémoire, la sensibilité aux perturbations électromagnétiques et bien sûr le coût, Tous ces paramètres seront influencés en fonction de la fréquence utilisée. Les températures de fonctionnement des RFID vont de -40°C à +70°C. La distance de lecture peut aller de quelques millimètres pour les fréquences LF à quelques dizaines de mètres pour les SHF utilisant des marqueurs actifs équipés d'une alimentation. Afin d'harmoniser et de réglementer cette technologie, des normes (ISO 18000-X) définissent le vocabulaire et l'utilisation dans les différentes fréquences allouées.

Applications :

Les applications des RFID sont multiples. On les utilise dans l'identification des animaux de compagnie, des animaux sauvages et du bétail. Les livres dans certaines bibliothèques sont rendus « intelligents ». Equipés d'une puce électronique, ils permettent un gain de temps lors des emprunts. Les colis, les containers, certains véhicules et les bagages dans les aéroports sont suivis et identifiés par ce procédé radio. De nombreuses épreuves de course à pied ou de cyclisme utilisent des puces de radio-identification. Fixées sur une chaussure, le cadre, ou le dossard de chaque participant, elles permettent ainsi le chronométrage individuel lors du passage des lignes de départ et d'arrivée. Le contrôle d'accès aux transports urbains ou des bâtiments sensibles, la chaîne du froid, les péages automatiques, les clés « sans serrures » présentent sur certains modèles automobiles et la gestion des vélos en libre service dans certaines agglomérations fonctionnent également avec la technologie des RFID. Les marqueurs sous-cutanées, conçues dans un premier temps pour la traçabilité des animaux, peuvent sans aucune contrainte technique être utilisées sur des humains. L'utilisation de ces puces a d'ores et déjà commencé. Ainsi une discothèque située à Barcelone, utilise des puces sous-cutanées pour offrir à ses clients VIP une fonction de porte-monnaie électronique implanté dans leur corps !!!

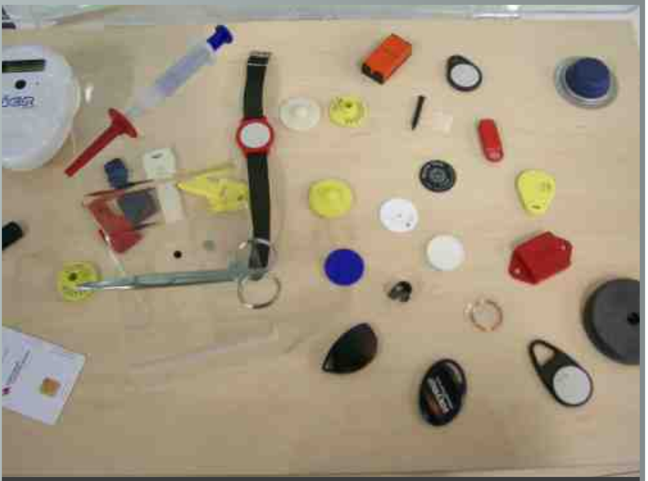
PUCES SOUS-CUTANEES

Historique des RFID

Le principe des RFID et né dans les années 40 afin de différencier les avions amis des avions ennemis. D'imposants transpondeurs furent placés dans les avions amis afin de répondre comme amical à l'interrogation des radars. Ce système IFF (Identify: Friend or Foe) fut la première utilisation de la RFID. Aujourd'hui encore, le contrôle du trafic aérien est basé sur ce principe. Dans les années 70, les systèmes RFID restèrent une technologie protégée à usage militaire. A la fin des années 70, la technologie est transférée vers le secteur privé afin de permettre l'identification du bétail en Europe. Le début des années 80 marque la fabrication et la commercialisation de marqueurs par de nombreuses sociétés européennes et américaines. L’année 1990 marque le début de la standardisation pour une uniformisation des équipements RFID à commencer par les cartes à puces.

Quel avenir pour les RFID ?

Les étiquettes "intelligentes", dont le coût devient peu élevé, risquent de remplacer et d’améliorer les codes barres actuels. Les applications de nos jours ne se limitent pas à la localisation d’une boite de petits poids ou l’envoi d’un colis à l’autre bout du monde. La lutte contre la contrefaçon, la falsification des documents et le contrôle des marchandises seront améliorées grâce à cette technologie. Dans l’avenir, un réfrigérateur pourra « reconnaître » les produits étiquetés RFID. Les chiens seront tatoués électroniquement (déjà obligatoire en Belgique).Et les inconvénients me direz-vous ? Cette technologie évolue très rapidement. Il faudra que les Etats, qui utilisent cette technique, fassent également évoluer les lois afin que ce procédé de « traçabilité » respecte la vie privée et les droits des individus. Le cas des étiquettes RFID sous-cutanées pose naturellement des questions d'éthique et relève du droit à l’intégrité physique.



Tags divers. La seringue n'est pas un tag, elle sert à injecter un tag sous-cutané.

Le pôle traçabilité situé à Valence (26) était partenaire et exposant du 1er salon européen dédié à 100% au RFID et à ses applications. Ce salon s’est tenu les 9 et 10 décembre 2008 au CNIT Paris la Défense.

Le pôle traçabilité propose aux industries les différents procédés utilisés dans la traçabilité d’un produit (RFID, code à barres, ADN, colorimétrie, hologramme…).

Je remercie Monsieur Jean-Michel Loubry pour sa précieuse collaboration.

Cordiales 73, F4FUC

Sources : Wikipédia et www.poletracabilite.com

INFOS DX

Par F5IRO

A52 Bhoutan / 9N Népal

I2DMI visitera le Bhoutan et le Népal entre fin décembre et début janvier. Il sera A52RY en RTTY depuis Trimphu du 22 au 31 décembre, entre 01 et 03h00 UTC et 12 et 19h00 UTC, QRG 3.582 / 7.040 / 10.142 / 14.082 / 18.102 / 21.082 / 24.922 / 28.082 MHZ puis au Népal jusqu'au 05 janvier avec l'indicatif 9N7DMI ou 9N7RY, même fréquences et heures, QSL via home call et LOTW

C5- Gambie

OZ8KR sera C56KR du 09 au 14 janvier 2009 en SSB du 40 au 10M. QSL via home call

C91 – Mozambique

ON4AEO ON4CJK ON7BK ZR6APT ZS6ACTT ZS6AY et ZS6GC seront C91FC du 09 au 13 avril 2009 modes SSB RTTY possible en CW. QSL via ON4CJK

CN – Maroc

Indicatif spécial pour la nouvelle année, CN89NY du 21/12 au 31/01/09. QSL via EA7FTR

CX - Uruguay

Un groupe d'opérateurs seront CV5A depuis Flores Island SA-030 du 22 au 26 janvier 2009 toutes bandes tous modes avec beam mono bande et une station dédiée aux RTTY et PSK31. QSL via CX2ABC

FH – Mayotte

G3SWH et G3RWL seront FH/G3SWH du 26 février au 05 mars 2009 CW RTTY PSK31. QSL via G3SWH

H44 – Salomon

KM9D et KF4TUG seront respectivement H44MY et H44TO en OC-192

HF0 – Antarctique

SP9YI est maintenant actif sous l'indicatif HF0APAS en AN-010. QSL via home call

HK0 – San Andres

WF5W K5UO HK3CW seront 5K0CW du 21 au 28 janvier avec une entrée au CQWW 160M. QSL via W5PF

HR – Honduras

IK2QPR sera HR9/IK2QPR depuis Roatan island NA-057 du 04 au 12 janvier. QSL via home call

JD – Ogasawara

JD1BMH et JD1BLY depuis Chichijima AS-031

KC4 – Antarctique

K2ARB sera KC4/K2ARB puis CE9/K2ARB et VP8DKF depuis Patriots Hills Camp AN-016 du 16 au 30/12 opération prévue tous modes. QSL via home call

T32 – Est Kiribati

T32YY depuis Christmas Island OC 024

T88 – Palau

JA6EGL JA6UBY JE6DND JA6KYU seront respectivement T88SM T88CP T88HK T88HS depuis Koror island OC 009 du 16 au 18 janvier CW SSB du 80 au 10 M QSL via home call direct seulement

TM – France

TM5WRC du 21 décembre au 03 janvier 2009 QSL via F4ELU

TU – Côte d’Ivoire

F4EYS sera TU8/F4EYS du 25 décembre au 28 février 2009

VP8 – Falkland

ON5NT sera VP8DLQ entre le 31/01 et le 07/02/09 QSL via ON5NT

W – USA

DL3OCH sera KT3Q/4 depuis Key Biscayne NA 141 jusqu’au 26/12, il pense pouvoir opérer aussi depuis NA 052 NA 062 NA 069 et/ou NA 138 QSL via home call

XU - Cambodge

NO2R sera XU7ACY à compter du 20 décembre et pour 6 semaines, il concentrera son trafic sur 160/80/40 M, il espère être actif aussi depuis Bamboo Island AS 133 avec XU7TZG pour être XU7KOH – QSL XU7ACY via W2EN et pour XU7KOH ON7PP

YO - Roumanie

ON4XA & ON4BEA seront catif du 20 décembre au 2 janvier sous YO2/ON4XA & YO2MBO depuis Ineu, Arad & Timisoara. QSL via home call (YO2MBO = ON4BEA) - *Source ON4XA*

ZD8 – Ascension

ZD8UW AF 003 du 31/12 au 09 janvier 2009

BIENTOT...

E44 – Palestine / 01 au 11 janvier
P40CG – Auba / 03 au 17 janvier
TS7C – Kerkennah islands AF 073 / 08 au 19 janvier
H44MS H44MS - Salomons / 10 janvier au 28 avril
VP8YLx - Falkland / 17 au 31 janvier
KP5 – Desecheo / 12 au 26 février
5J0M – San Andres / 19 juin au 05 juillet
V31UR V31WL – Belize / 22 au 29 juillet
MM0NDX/P – St Kilda Island EU 059 / 24 au 27 juillet

EN COURS

Jusqu'à fin décembre	VE2XB/VY0 Southampton Island (NA-007)
Jusqu'à fin décembre	ON4JM sera OD/ON4JM
Jusqu'à fin décembre	T31DX OC 043
Jusqu'à fin décembre	OH9SCL
Jusqu'à fin décembre	TR50R
Jusqu'à fin décembre	YS1/HB9KNA

Jusqu'à fin janvier 2009	FM/F5IRO QSL via F5IRO
Jusqu'au 20 janvier 2009	CT1/ON4LO/P
Jusqu'à mi-février 2009	OP0LE par ON3PC
Jusqu'au 03 février 2009	EA8/ON5JV et EA8/ON6AK (AF-004)
Jusqu'au 06 février 2009	9M2MRS Penang Island (AS-015)
Jusqu'à fin février 2009	OD5/F5TLN
Jusqu'au 07 mars 2009	VK2ABP est VK0BP depuis la base Davis
Jusqu'à fin mars 2009	J5UAP
Jusqu'à fin mars 2009	6W2SC
Jusqu'à fin avril 2009	VK2LNX et VK2FSNJ Maatsuyker Island (OC-233)
Jusqu'à fin avril 2009	OD5/IV3YIM
Jusqu'à fin août 2009	VR2/F4BKV (AS-006)
Jusqu'à fin novembre 2009	FT5WO (AF 008)
Jusqu'à fin novembre 2009	OD5/W5YFN

Contests de la semaine 51

DARC CHRISTMAS CONTEST
26/12 08H30Z AU 26/12 11H00Z (SSB CW)

RAC WINTER CONTEST
27/12 00H00Z AU 27/12 23H59Z (SSB CW)

RAEM CONTEST
27/12 02H00Z AU 27/12 09H59Z (CW)

STEW PERRY TOP BAND DISTANCE CHALLENGE
27/12 15H00Z AU 28/12 15H00Z (CW)

070 CLUB QRP DX SCRAMBLE
28/12 00H00Z AU 28/12 24H00Z (DIGI)

Bonnes fêtes et bons DX à toutes et à tous
Freddy FM/F5IRO

zyGrib - GRIB File Viewer
Visualisation de données météo au format GRIB sous Linux et sous windows

Par FØEED

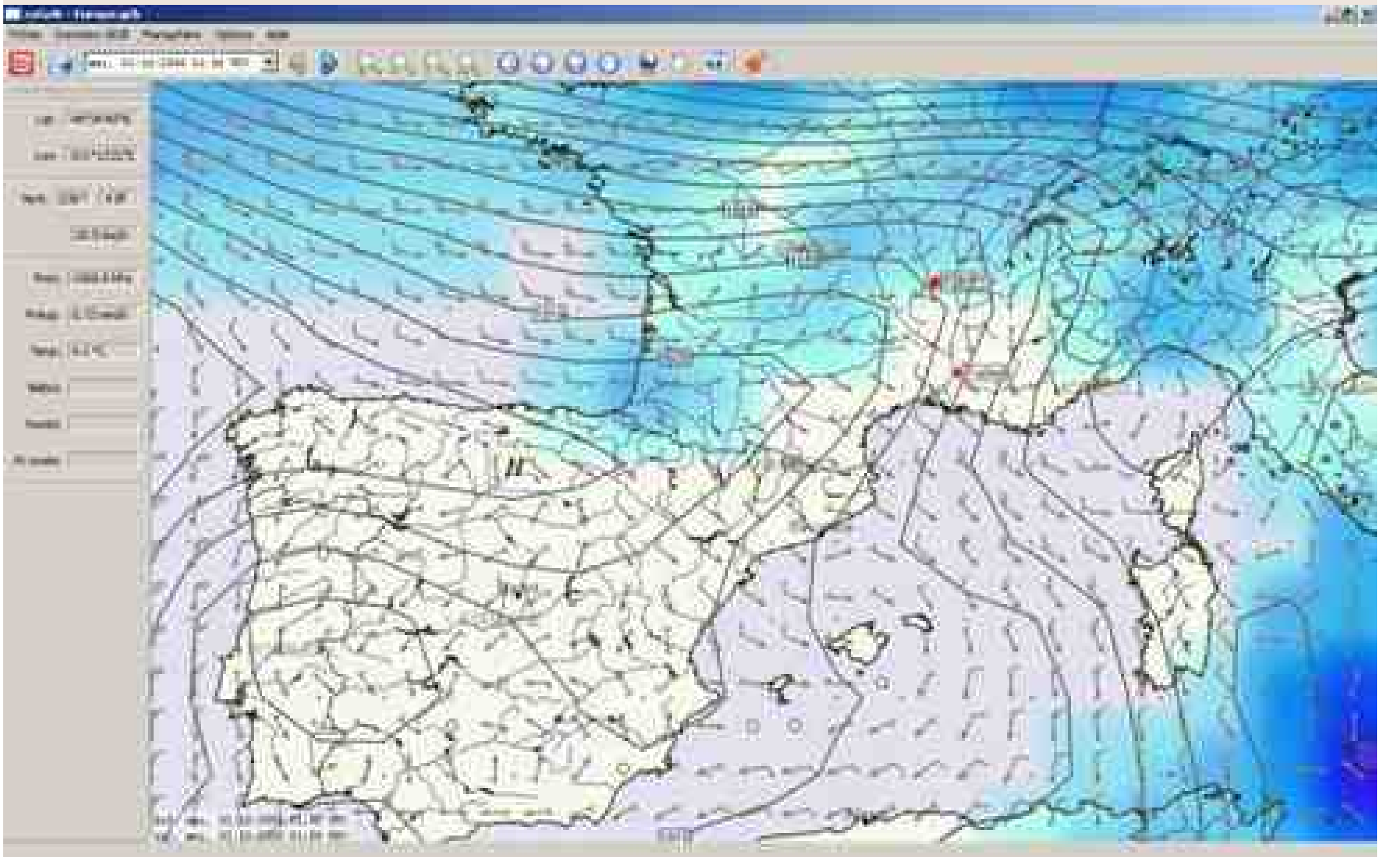
Depuis fort longtemps, que cela soit pour nos activités purement radio ou pour nos activités ADRASEC, l'étude du phénomène météo est importante. Plusieurs possibilités existent pour nous SWL, Radioamateur, etc.
La réception d'image fax, d'image SSTV, réception satellite, site Internet professionnels ou amateur, …
Celle que nous vous présentons repose sur l'étude des données Grib, certes une connexion Internet semble primordiale pour la récupération des fichiers de données, bien qu'une connexion packet puisse être envisageable…

Tout d'abord la définition de Grib :
GRIB, "GRIdded Binary data", est un format standard de l'Organisation Météorologique Mondiale (OMM) pour l'échange de données météorologiques en points de grille.

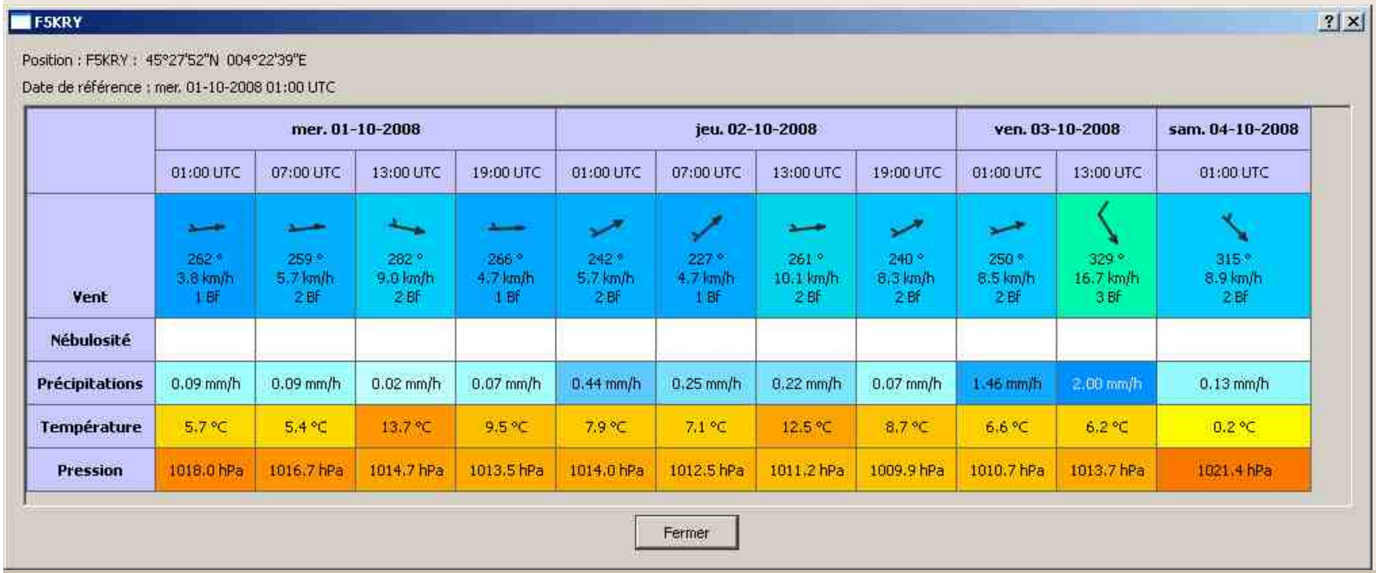
Présentation de zyGrib :
ZyGrib est un visualisateur de fichier météorologique de format grib en voici les caractéristiques :

- Affichage des données météo contenues dans des fichiers au format GRIB 1.
- **Données météorologiques gérées :**
  - pression atmosphérique au niveau de la mer
  - vent à 10 m du sol
  - température à 2 m du sol
  - humidité relative à 2 m du sol
  - cumuls de précipitations (mm/h)
  - couverture nuageuse (%)
  - point de rosée
  - affichage direct de fichiers GRIB brut ou compressé (au format .gz ou .bz2)
  - animation météo à partir des données Grib
  - Gestion des points d'intérêt pour le repérage des zones préférées
  - Avec le clic gauche création de la météotable (évolution météo)
- **Téléchargement automatique de fichiers GRIB :**
  - données météorologiques en provenance directe du NOAA (modèle GFS).
  - Les fichiers GRIB sur mesure sont générés par zyGrib
  - Mises à jour toutes les 6 heures (selon la disponibilité des données NOAA)
  - Prévisions jusqu'à 7 jours, par pas de 3 heures
  - Couverture mondiale, mailles de 0,5°
  - Données cartographiques mondiales GSHHS (précision moyenne ≈ 100 m) pour les fonds de cartes.

- Logiciel libre opensource, zyGrib est distribué sous la licence GNU GPL V3 (http://www.gnu.org/licences/gpl-3.0.html)
- Zygrib utilise un environnement graphique QT4 de Trolltech



Vue de la fenêtre principale de Zygrib 2.1.0

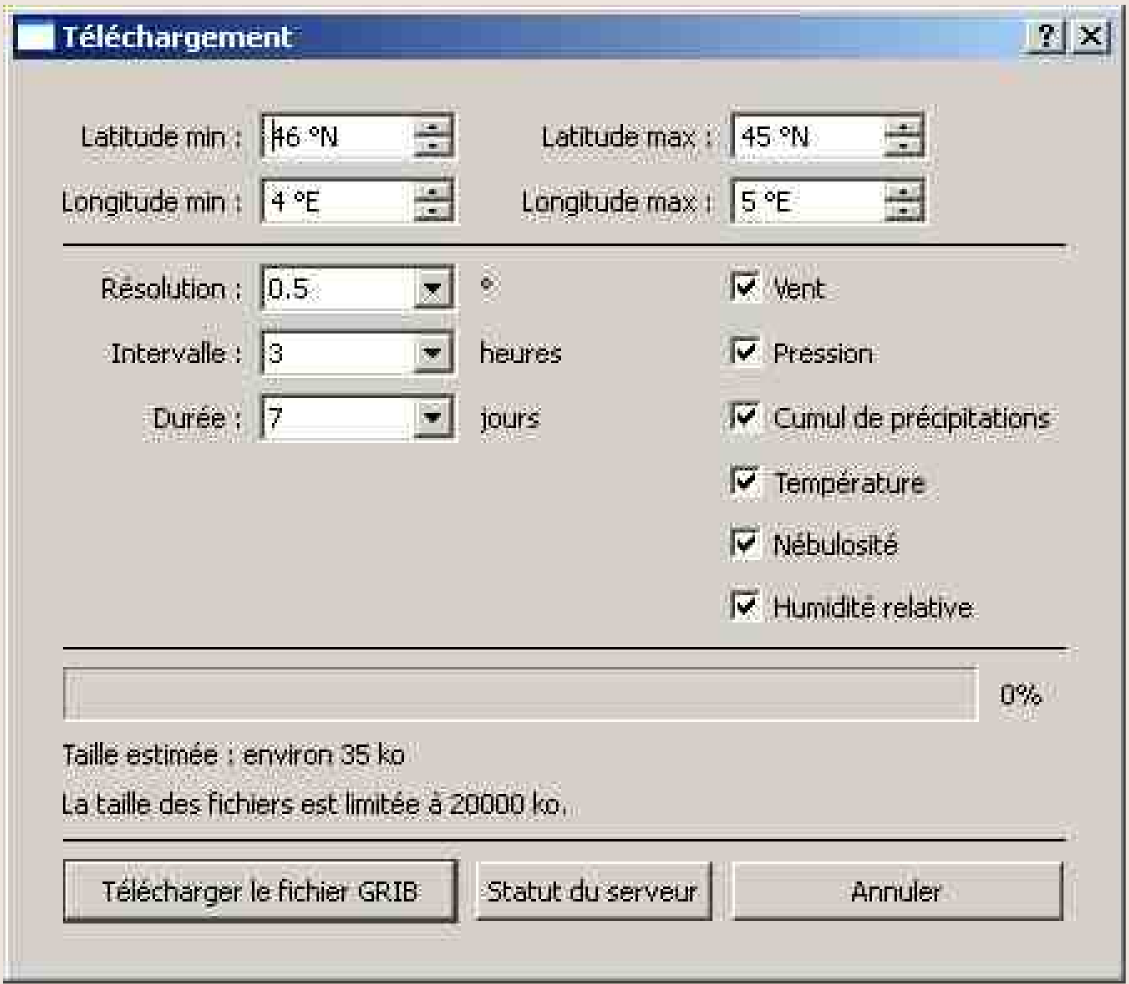


Position : F5KRY : 45°27'52"N 004°22'39"E

Date de référence : mer. 01-10-2008 01:00 UTC

	mer. 01-10-2008				jeu. 02-10-2008				ven. 03-10-2008		sam. 04-10-2008
	01:00 UTC	07:00 UTC	13:00 UTC	19:00 UTC	01:00 UTC	07:00 UTC	13:00 UTC	19:00 UTC	01:00 UTC	13:00 UTC	01:00 UTC
Vent	262 ° 3.8 km/h 1 Bf	259 ° 5.7 km/h 2 Bf	282 ° 9.0 km/h 2 Bf	266 ° 4.7 km/h 1 Bf	242 ° 5.7 km/h 2 Bf	227 ° 4.7 km/h 1 Bf	261 ° 10.1 km/h 2 Bf	240 ° 8.3 km/h 2 Bf	250 ° 8.5 km/h 2 Bf	329 ° 16.7 km/h 3 Bf	315 ° 8.9 km/h 2 Bf
Nébulosité											
Précipitations	0.09 mm/h	0.09 mm/h	0.02 mm/h	0.07 mm/h	0.44 mm/h	0.25 mm/h	0.22 mm/h	0.07 mm/h	1.46 mm/h	2.00 mm/h	0.13 mm/h
Température	5.7 °C	5.4 °C	13.7 °C	9.5 °C	7.9 °C	7.1 °C	12.5 °C	8.7 °C	6.6 °C	6.2 °C	0.2 °C
Pression	1018.0 hPa	1016.7 hPa	1014.7 hPa	1013.5 hPa	1014.0 hPa	1012.5 hPa	1011.2 hPa	1009.9 hPa	1010.7 hPa	1013.7 hPa	1021.4 hPa

Météotable pour le Point d’intérêt F5KRY Radio Club de la Région Stéphanoise (http://www.f5kry.org)



Latitude min : 46 °N
Latitude max : 45 °N
Longitude min : 4 °E
Longitude max : 5 °E
Résolution : 0.5 °
Intervalle : 3 heures
Durée : 7 jours
☑ Vent
☑ Pression
☑ Cumul de précipitations
☑ Température
☑ Nébulosité
☑ Humidité relative
0%
Taille estimée : environ 35 ko
La taille des fichiers est limitée à 20000 ko.

Paramétrage des données Grib à Télécharger

Voilà la présentation de cet excellent logiciel est maintenant terminée. Il me reste à vous dire que le logiciel est téléchargeable sur le site officiel **http://zygrib.free.fr** et à vous donner rendez-vous sur un prochain article pour la configuration et l'utilisation de Zygrib.
Merci à Jacques Zaninetti pour la création du logiciel, et pour promouvoir l'esprit, pas si loin du radioamateurisme, du logiciel libre.

Frédéric F0EED
Pour l'ADRASEC 42

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DEOMECANO - BINGO
Pour bien construire son Transceiver mono-bande QRP, SSB ou CW

TRANSCEIVER QRP CW **BINGO CW 40**
sur circuit imprimé

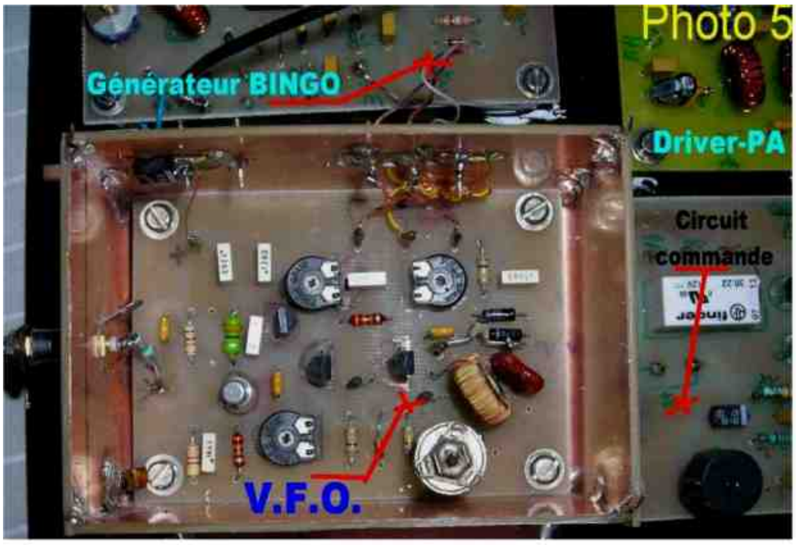
par F6BCU Bernard MOUROT

2ème Partie

LE V.F.O. (oscillateur à fréquence variable)

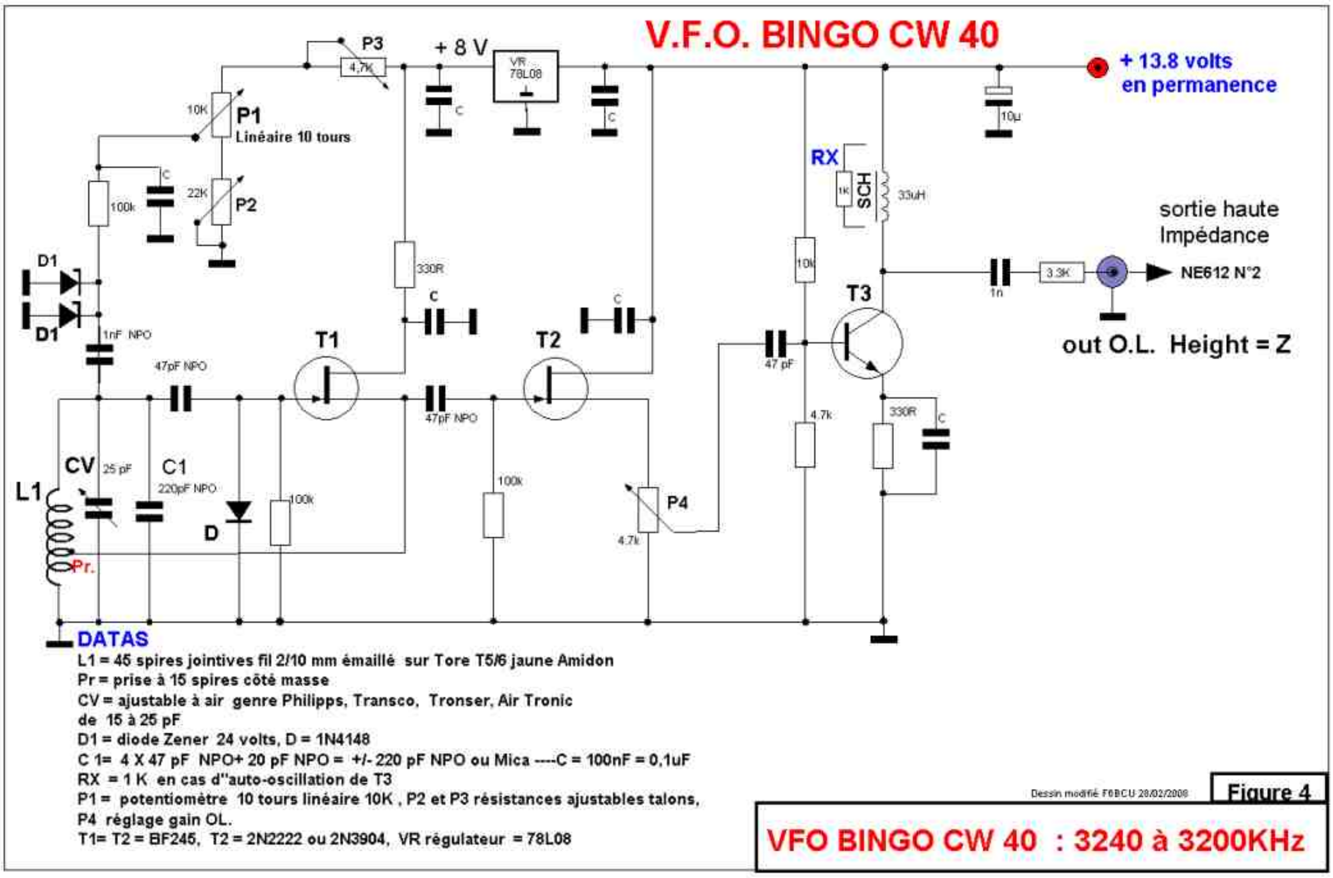
CHOIX TECHNIQUE DU V.F.O.

L'oscillateur du V.F.O est un Hartley sur transistor Fet (T1) BF 245 qui oscille sur une bande de fréquence relativement basse de 3.200 à 3.240 KHz. Cet oscillateur nous l'avons reproduit des dizaines de fois avec succès ; il est simple, est stable même avec des diodes Varicap réputées pour induire un coefficient de température négatif. Nous avons repris une ancienne technologie USA décrite dans le Hand Book de L'ARRL notamment dans l'édition 1991 mais toujours d'actualité qui à pour principe :



La conjugaison du tore **T 50-6 jaune Amidon** avec de la capacité **NPO** dans un montage oscillateur tel que le Hartley par exemple fait que la variation thermique du Tore et de la capacité NPO se compensent mutuellement. Le résultat est une dérive de fréquence quasi nulle ; honnêtement nous dirons 100 Hz par heure. Pour la simplicité du montage c'est excellent, surtout si nous considérons l'élément de commande de fréquence à capacitance variable une diode Zener de 24 Volts qui
remplace la diode Varicap rare dans le commerce. Cette diode Zener est la : **BZY 88C 24 V**. Quant à la variation de fréquence dans la bande de fréquence retenue, se sont 40 KHz (tenant compte des disparités existant entre diodes Zener) mesurés en une seule variation, sous une faible tension de 8 Volts régulés. Ce qui est tout à fait exceptionnel. Mais sur ces dizaines de kilohertz de variation de fréquence, les 40 kHz de 2.5 à 8 Volts correspondant à la variation de fréquence de 3.200 à 3.240 KHz. Le condensateur CV1 fait 15 à 30 pF c'est un ajustable à air type « **Tronser, Transco ou cloche, Airtronic ou Johanson** » que nous utilisons dans nos constructions.
Ce condensateur à air qui sert au positionnement exact dans la bande de fréquence à couvrir est un des éléments clefs de la stabilité du VFO. Mais sur des fréquences inférieures à 3 MHz un ajustable en matière plastique ne pose aucun problème pour la stabilité du VFO.

SCHEMA DU V.F.O.



DATAS
L1 = 45 spires jointives fil 2/10 mm émaillé sur Tore T5/6 jaune Amidon
Pr = prise à 15 spires côté masse
CV = ajustable à air genre Philipps, Transco, Tronser, Air Tronic
de 15 à 25 pF
D1 = diode Zener 24 volts, D = 1N4148
C 1= 4 X 47 pF NPO+ 20 pF NPO = +/- 220 pF NPO ou Mica ----C = 100nF = 0,1uF
RX = 1 K en cas d''auto-oscillation de T3
P1 = potentiomètre 10 tours linéaire 10K , P2 et P3 résistances ajustables talons,
P4 réglage gain OL.
T1= T2 = BF245, T2 = 2N2222 ou 2N3904, VR régulateur = 78L08

Dessin modifié F6BCU 28/02/2008

Figure 4

VFO BINGO CW 40 : 3240 à 3200KHz

COMMENTAIRE TECHNIQUE

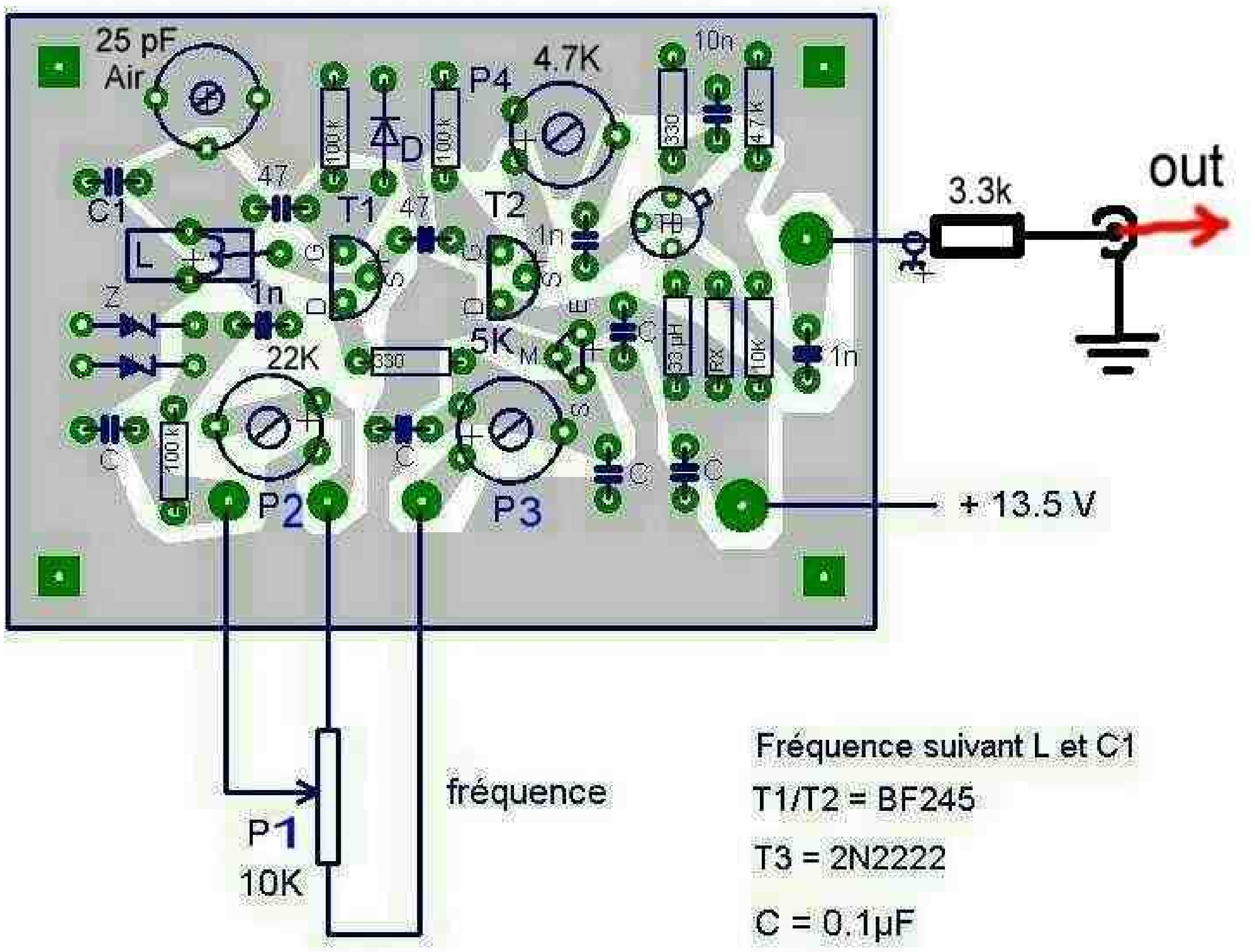
Le potentiomètre P1 est un 10 tours linéaire pour le réglage de fréquence, P2 et P3 sont des résistances ajustables de 22 K et 4.7K servant à ajuster les bouts de bande. Nous vous conseillons de régler l'ajustable P2 pour avoir une tension de +2,5 volts à ses bornes pour la fréquence la plus basse. P3 agit sur le réglage des fréquences les plus hautes. En conjugaison les réglages de P2 et P3 permettent le calage dans la bande des 7 à 7.040 MHz

Le gain HF de sortie du VFO se règle avec P4 résistance ajustable de 4.7K, mais le VFO est trop généreux en tension de sortie. Pour bien maîtriser le réglage de l'injection du VFO sur le mélangeur NE612 N°2, il est ajouté en sortie sur le boîtier du VFO une 2ème résistance de 3.3K (voir la modification sur le plan d'implantation des composants).
Pour prévenir tout risque d'auto-oscillation sur l'étage T3, prévoir la résistance RX de 1K pour amortir l'inductance de 33 µH. (n'a jamais été incluse mais est signalée par précaution)

L'inductance L doit être disposée verticalement et éventuellement accentuer sa rigidité dans le temps, après soudure des fils, en la fixant mécaniquement sur le circuit avec un coup de pistolet à colle.
Pour bien isoler thermiquement le VFO l'inclure dans une boite métallique fermée ou construite en circuit imprimé simple face. La fibre de verre cuivrée est un excellent isolant thermique. Autre conseil le couvercle refermant le VFO doit-être au moins espacé de 4 cm de la surface du circuit imprimé,
(pour éviter trop de variation de fréquence lors de la fermeture du couvercle.

IMPLANTATION DES COMPOSANTS DU V.F.O.

V.F.O. BINGO CW 40



Fréquence suivant L et C1

T1/T2 = BF245

T3 = 2N2222

C = 0.1µF

T = T50/6 jaune   Rég.78L08

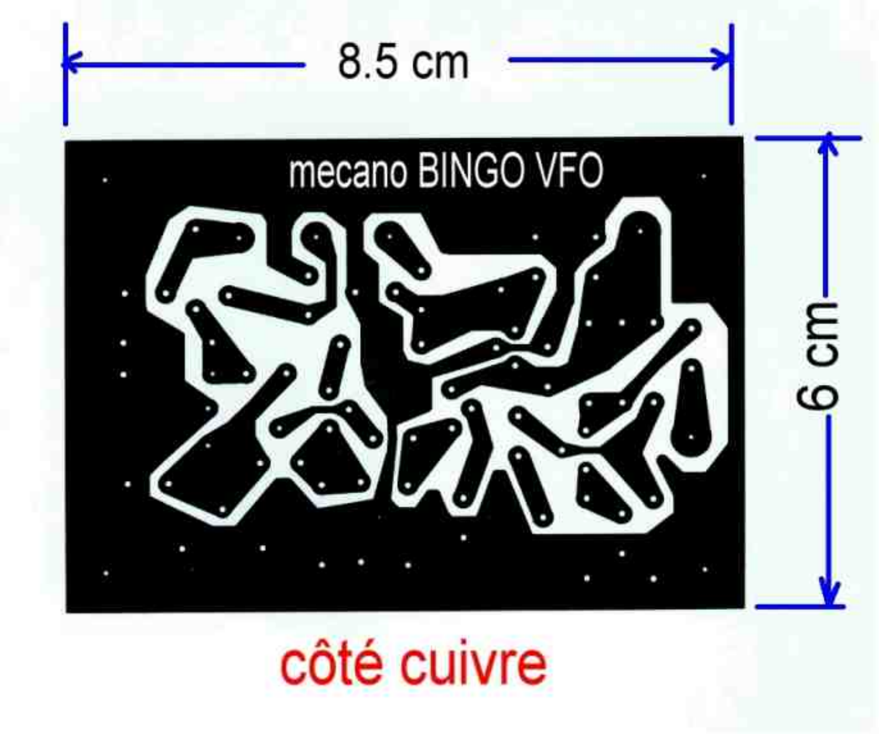
D = 1N4148 = 1N914   Z = Zener 24V

P2 et P3 ajustables talons

P4 = niveau de sortie

modifications 28/02/08

CIRCUIT IMPRIMÉ CÔTE CUIVRE



Les pistes dessinées sont relativement larges ; Le circuit bien aéré ne présente aucune difficulté pour l'implantation des composants et sa reproductibilité .

NOMENCLATURE DES COMPOSANTS

D =1N4148 **T1=T2**=BF245 **T3**=2N2222

CV1 = Cv ajustable à air « Tronser, Transco, cloche, Airtronic, Johanson » de 15 à 30pF

P1 = potentiomètre 10K et 10 tours **P2** = résist. ajustable 22k,

P3 = résistance ajustable 4.7K **P4** = résistance ajustable 4.7K

L = Tore T50-6 couleur jaune de Amidon

Z = diode Zener 24v référence : BZY88C-24V

Self de choc (inductance) = 33uH axial 78L08 = régulateur +8V

Condensateurs : 1nF=2, 10uFradial=1, 20pF NPO = 2, 47pF NPO= 7, 100nF ou 0,1uF=6,

Résistances 1/8W : 1K=1, 100K=3, 330=2, 10K=1, 4.7K=1

axial 78L08 = régulateur +8V

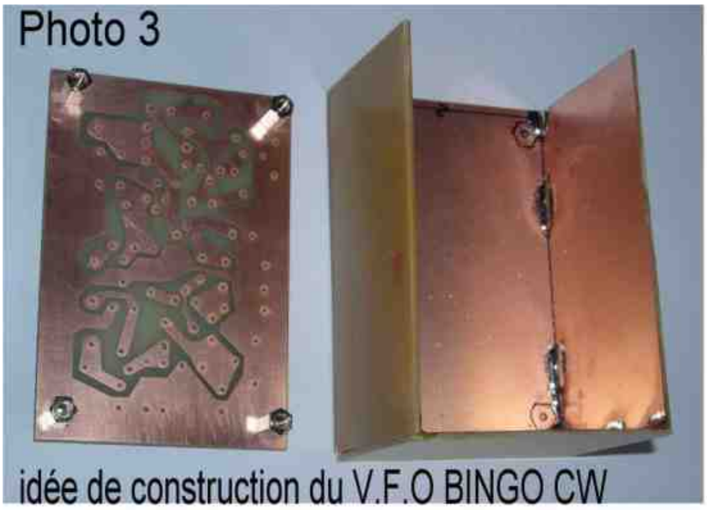


Photo 3

idée de construction du V.F.O BINGO CW

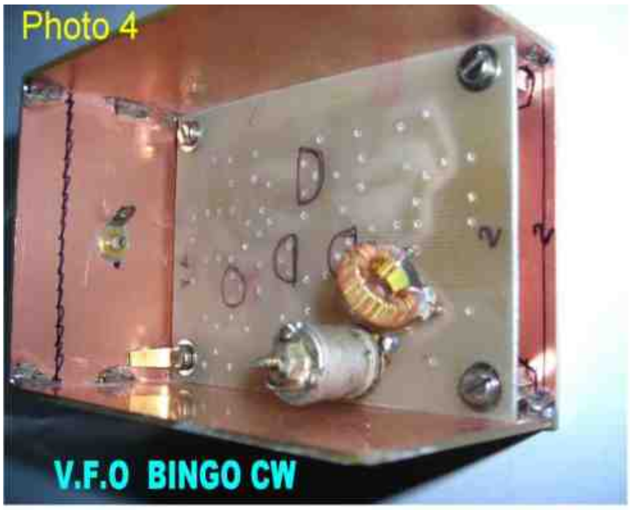
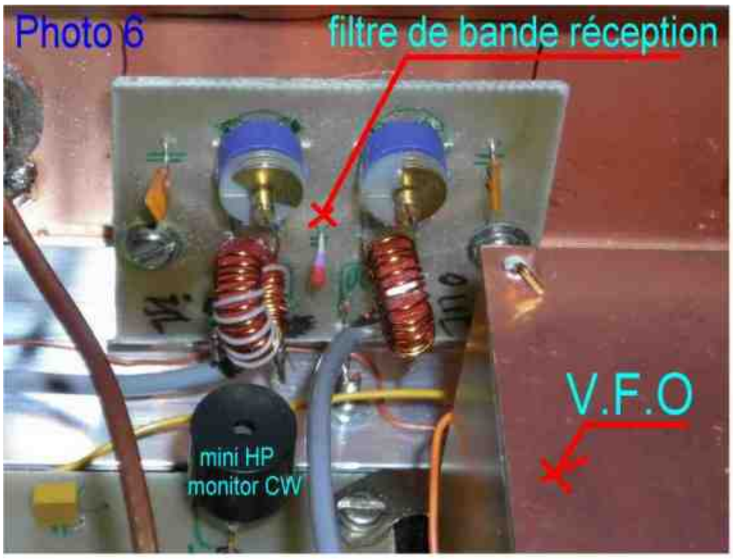


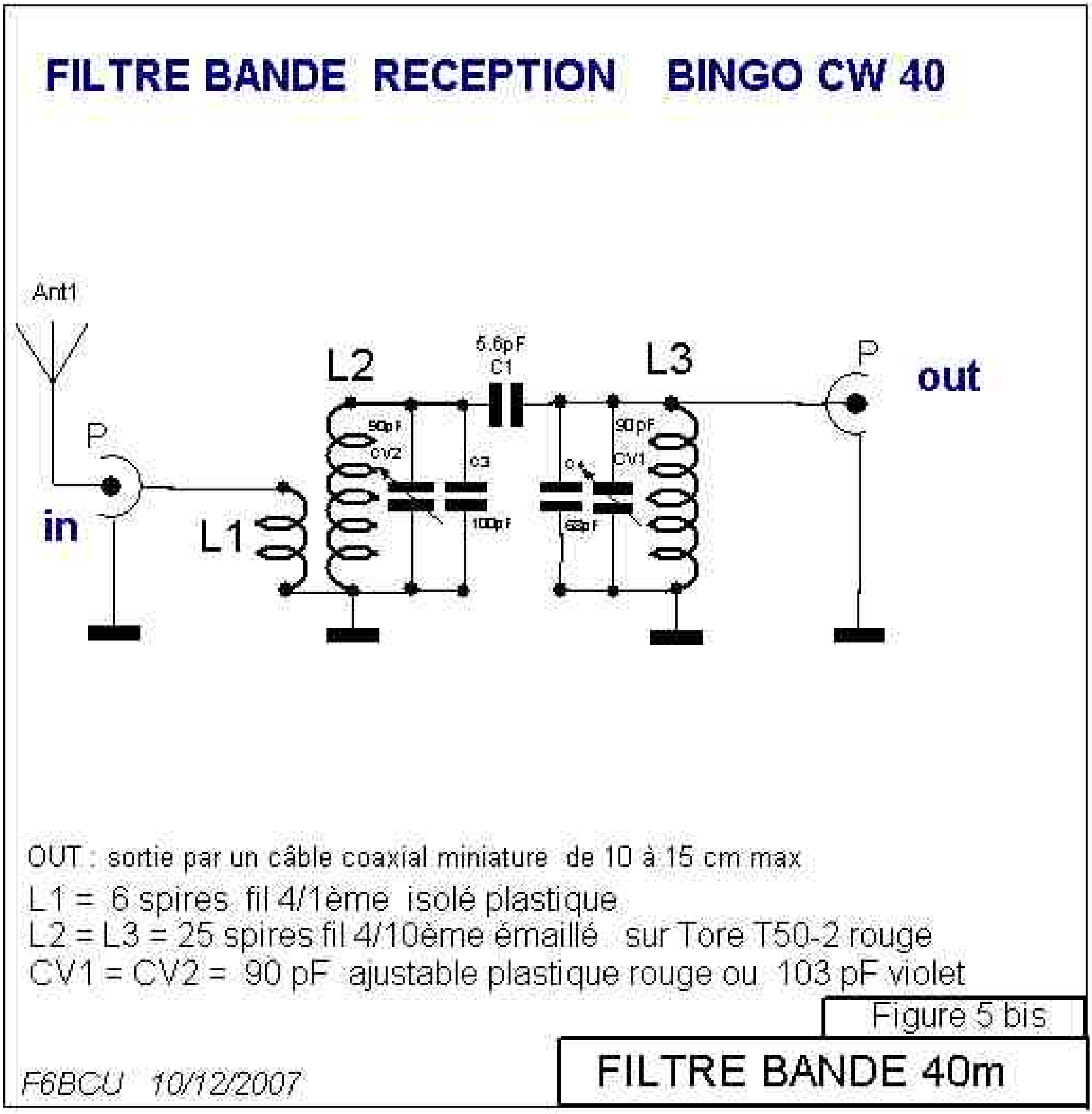
Photo 4

V.F.O BINGO CW

FILTRE DE BANDE RÉCEPTION



Ce filtre de bande nouvelle version a déjà été expérimenté et est implanté sur la maquette d'origine du BINGO CW 40 . Par rapport aux autres filtres de bandes précédents utilisé sur 40 m avec la sortie sur le NE612 n° 2 pin n°2 par bobinage secondaire de quelques spires couplées au circuit d'accord, nous partons d'une liaison capacitive haute impédance directement par un petit câble coaxial de 10 à 15 cm de long. Bien entendu la capacité d'accord additive est ramenée à 68pF, pour compenser la capacité propre du coaxial.



FILTRE BANDE RECEPTION BINGO CW 40

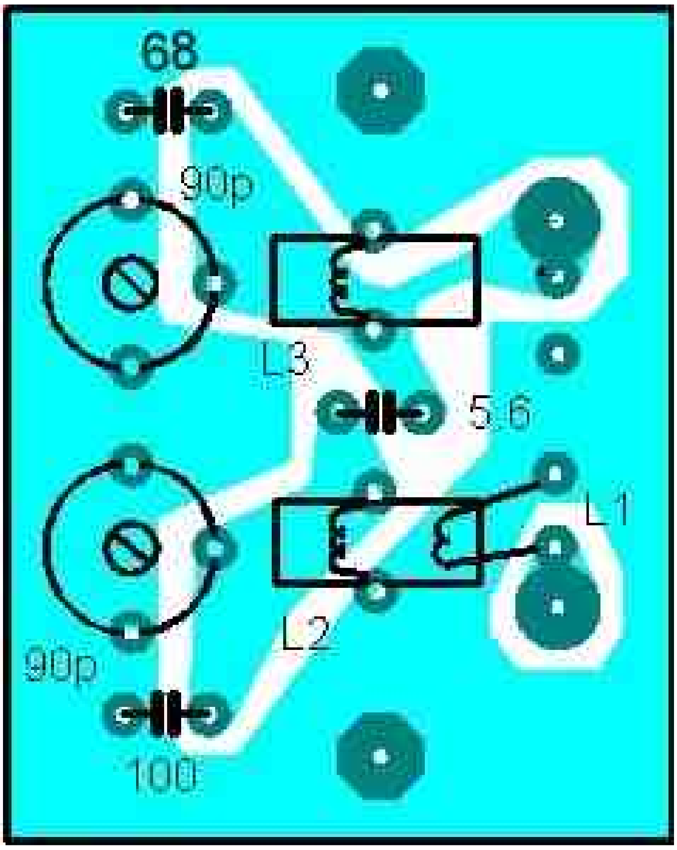
OUT : sortie par un câble coaxial miniature de 10 à 15 cm max
L1 = 6 spires fil 4/1ème isolé plastique
L2 = L3 = 25 spires fil 4/10ème émaillé sur Tore T50-2 rouge
CV1 = CV2 = 90 pF ajustable plastique rouge ou 103 pF violet

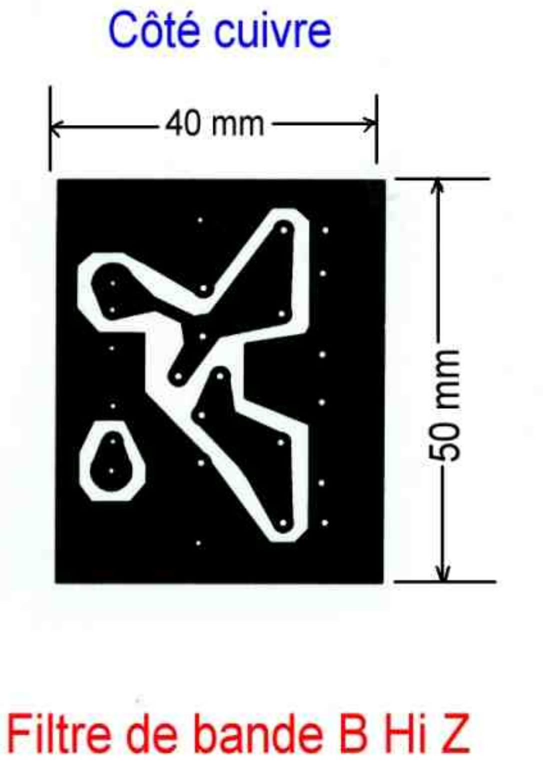
Figure 5 bis

FILTRE BANDE 40m

F6BCU 10/12/2007

FILTRE DE BANDE IMPLANTATION - CIRCUIT CÔTÉ CUIVRE





Fin de la 2ème partie

F8KHM –Radio club de la Ligne bleue en Déodatie

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CQD

Une nouvelle de F5SLD

Hervé s'en souvenait comme si c'était hier. Pourtant, 6 mois déjà s'étaient écoulés depuis ce fameux samedi. C'était un de ces samedis d'hiver, quand la brise glaciale du Nord se faufile à travers vos vêtements et vient se déposer doucement sur la fine pellicule de votre peau, entrainant un reflexe inné appelé chair de poule. Durant ces week-ends tristes et mornes, Hervé passait ses après-midi devant son émetteur-récepteur, écoutant, zappant de fréquences en fréquences et répondant aux appels de ces inconnus tantôt voisins, tantôt situés aux antipodes de sa maison.

Hervé était un radioamateur. Cette passion l'avait envahi dès son adolescence et depuis, ne l'avait jamais quitté. Une fidélité à faire pâlir de jalousie les couples les plus blindés.

Ce fameux samedi, Hervé écoutait là-haut, sur les fréquences UHF dans l'espoir de capter une balise, une voix, enfin, quelque chose qui briserait ce souffle caractérisant le vide. C'était la fin de l'après-midi et il décida d'attendre encore 10 minutes avant d'éteindre son poste et d'aller siroter un café nappé de crème chantilly.

Alors il entendit des notes. C'était du morse. Telles des notes de musiques, mais moins pures et irrégulières, il écoutait pensant pouvoir décoder une balise.

Il prit son crayon et une feuille et commença à décoder ces sons portés par le vent de la propagation.

Apparemment, le message était en anglais. Qu'importe, Hervé connaissait les rudiments de la langue de Shakespeare et il pourrait traduire plus tard.

Ce qui l'étonnait, c'était ces trois lettres qui revenaient sans cesse « CQD ».

Il décodait les lettres qui suivaient sans porter attention au contenu et à la signification, trop interpellé par ces « CQD ».

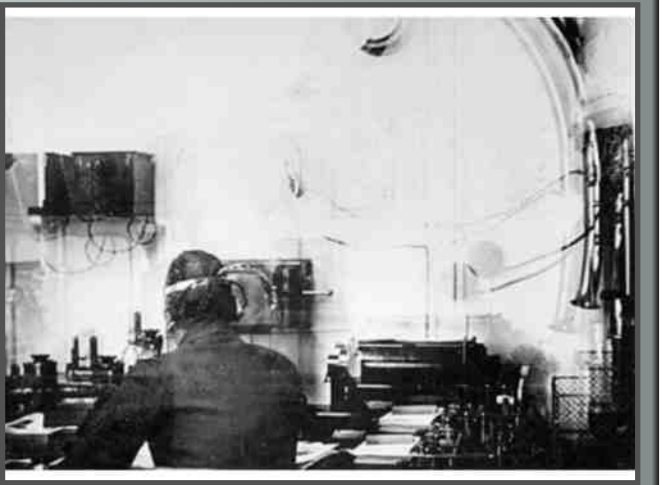
CQD, CQD se répétait-il, cela me dit quelque chose mais quoi ?

Voyons, serait-ce un CQDX et l'opérateur oublierait le X ?

Le mieux se dit-il est d'attendre la fin du message et de répondre. Seulement, peut-être devait-il d'abord traduire le texte afin d'y extirper l'indicatif de la station appelante. A moins qu'il ne s'agisse d'une nouvelle balise. Non, impossible se dit-il, je n'ai jamais entendu une balise lancer des CQD, en général, il s'agit d'une série de V.

Lentement mais sûrement, Hervé décodait les lettres sans réfléchir. Puis la transmission s'arrêta net. Il attendit une dizaine de secondes et utilisa son manipulateur de morse pour lancer un «QRZ QRZ ?»

Un silence suivit… Une minute, deux minutes… Rien !
Alors il lança un nouveau message « QRZ QRZ DE F8HAM F8HAM PSE K »
Il attendit de nouveau. Puis il entendit des notes en morse. A son grand étonnement, les CQD continuaient mais le message en anglais semblait différent. Alors il nota patiemment les lettres et se promit de traduire les textes reçus plus tard. Au bout de cinq minutes, la transmission cessa. Hervé essaya d'envoyer plusieurs appels mais aucune réponse. Il semblait que la station avait cessée ses émissions. Il reprit ses notes et commença à vouloir traduire les deux textes reçus, mais avant cela, il regarda sur son moteur de recherche préféré, la signification de CQD. Voici la réponse qu'il trouva sur un site :



CQD (Come Quickly Distress), transmis en alphabet morse comme « - • - •   - - • -   - • • » est le premier signal de détresse adopté pour les communications par radiotélégraphie. Il fut annoncé le 7 janvier 1904 par la "Circular 57" de la Marconi International Marine Communication Company et entra en vigueur pour les installations Marconi le 1er février 1904.

Mais qui pouvait s'amuser à envoyer un signal de détresse tombé dans l'oubli depuis environ 100 ans ? Il devenait urgent de traduire les textes en français ! Tant pis pour le café et la pause !

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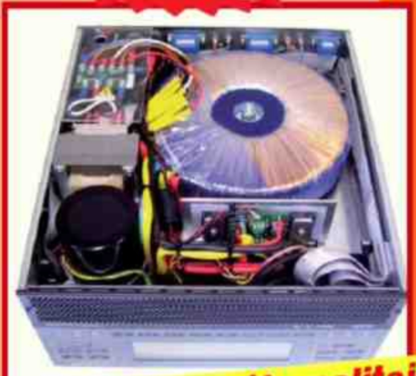

Franco de port France métropolitaine pour les commandes passées en octobre !

* Prix indicatif ; prix magasin et offres promotionnelles, nous consulter. Photos non contractuelles. Publicité valable pour le mois de parution. Prix exprimés en euros. Sauf erreur typographique.

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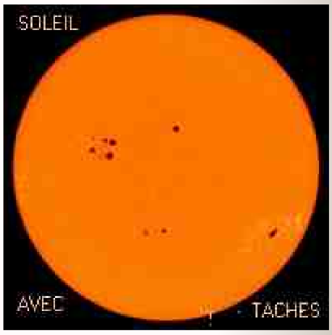
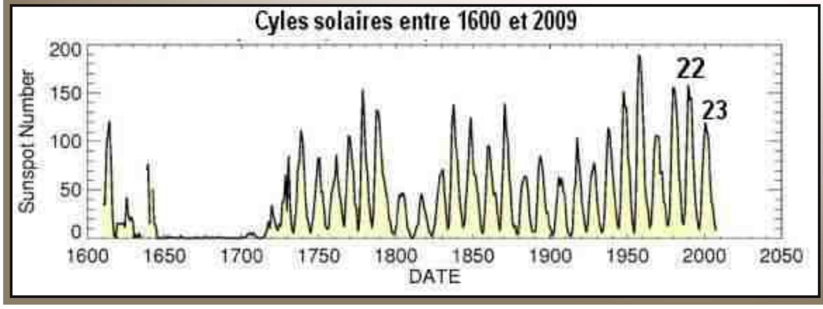
Des nouvelles de l'espace par F10K

2008 UNE ANNEE SANS TACHE

L'année qui se termine aura été sans nul doute une année de très faible activité solaire, ce qui n'a pas facilité la tache aux chasseurs de DX rares sur les bandes décamétriques. Tous les spécialistes auscultant le soleil depuis la terre ou via les nombreux satellites dédiés à ces études étaient formels il y a un an : 2008 devait etre le départ du nouveau cycle solaire, le cycle 24. Force est bien de constater à la fin de 2008 que ces prédictions ne se sont pas vraiment réalisées le cycle 23 n'étant même pas terminé. Paradoxalement, 2008 aura même été l'année où on aura compté le moins de taches solaires depuis un demi siècle. Il faut en effet remonter à 1954 pour retrouver une situation similaire. Cette année, pendant plus de 200 jours, le soleil était même totalement exempt de taches. Pas étonnant que les bandes amateurs soient vides ou peuplés de signaux squelettiques et que de nombreux amateurs dégoutés de n'entendre que du bruit sur la "MAGIC BAND" se soient débarassé à vil prix de leur équipement 50 mhz. En effet, plus il y a de taches et plus le rayonnement envoyé par le soleil sous la forme d'un mélange de particules énergétiques est intense et capable d'ioniser l'ionosphère terrestre permettant ainsi les laisons radio à grande distance. La situation actuelle, même si elle continuait à perdurer quelques mois voire quelques années, ne serait pas obligatoirement catastrophique car dans la période historique le phénomène a été déjà enregistré de nombreuses fois. Sans nul doute, la période la plus longue d'inactivité du soleil s'est située au 17éme siecle entre 1650 et 1700 où, si l'on en croit les observateurs de l'époque, la couronne solaire fut dépourvue de taches. Curieusement, cette période, baptisée cycle de Maunder, correspond à une période pendant laquelle on connut sur terre une saison de refroidissement très sensible avec des températures particulièrement basses en hiver .

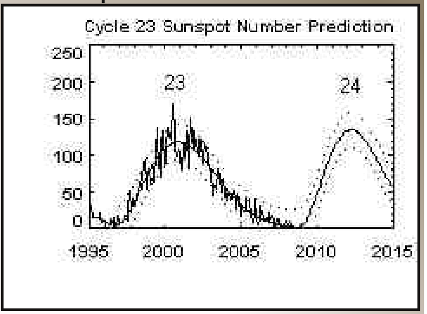


Depuis quelques années déjà, le soleil est l'objet de recherches approfondies pour mieux prévoir son comportement et également pour chiffrer l'incidence de ses variations d'activité sur le réchauffement climatique enregistré sur terre. Il est difficile de nos jours de ne pas savoir que notre planète se réchauffe suite à l'augmentation de "L'EFFET DE SERRE" consécutif au rejet dans l'atmosphère, en moins d'un siècle, ce que la nature a accumulé sous forme de petrole ou de charbon pendant des millions d'années. Toutefois, si l'on en croit certains scientifiques, il pourrait ne pas être le seul responsable. Un autre responsable pouvant être le soleil. Chacun sait que l'activité solaire n'est pas constante et est sujette à des variations cycliques tous les 11 ans environ. Les effets sur l'ionisation des hautes couches atmosphèriques est particulièrement bien connue. Par contre, l'effet sur la température moyenne de la terre l'est beaucoup moins .



La mission du satellite SORCE de la NASA (qui devait arrêter sa mission de surveillance des effets du soleil sur la terre début 2008) a été prolongée jusqu'en 2012 afin de pouvoir suivre la montée de l'activité solaire qui, début 2008, reste quasiment à son minimum.

Lancé en 2003 SORCE se trouve placé sur une orbite circulaire à 640 km d'altitude inclinée de 40° par rapport à l'équateur. Sa principale mission consiste à mesurer la puissance totale des rayonnements émis par le soleil pour des longueurs d'onde comprises entre 1 et 2000 nanomètres, spectre qui va des ultra violets au infra-rouges en passant par les radiations visibles. Cette gamme de longueurs d'onde concentre plus de 95% du contenu énergétique des rayonnements que nous recevons du soleil. SORCE n'est pas le premier satellite à se livrer à ce genre de mesures, les premières remontant à 1979. Si l'on en croit les scientifiques du LASP (Laboratory for Atmospheric and Space Physics) de l'université du Colorado qui dépouillent depuis des années les données collectées, il ne semble pas que la variabilité de l'activite solaire ait un fort impact sur le réchauffement de la planète. En octobre 2003 au plus fort du cycle solaire et au moment d'une très forte éruption solaire qui perturba gravement des satellites de communication et provoqua des dommages sur des lignes à haute tension aux USA et au Canada, l'effet thermique moyen transistoire fut chiffé à moins de 0.2 degré .



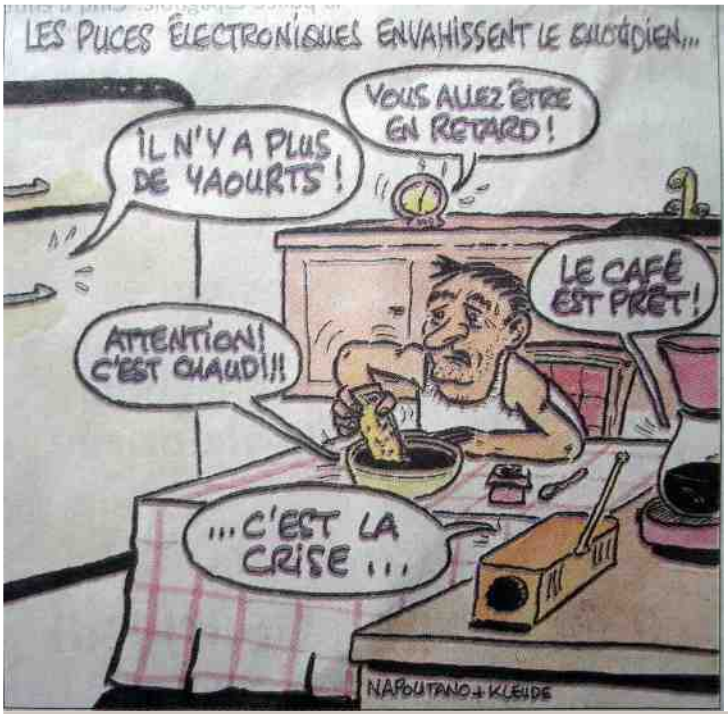
Le satellite SORCE n'est pas le seul à ausculter le soleil sous toutes ses coutures durant le cycle 24 qui démarre en 2008. SOHO, SOLAR-B, TRACE, ULYSSE et bien d'autres comme STEREO A et B sont également en orbite, chacun ayant un domaine d'étude différent. La plupart de ces satellites transmettent dans la bande 8 Ghz. En vous connectant sur le site de DD1US (http://www.dd1us.de) vous pourrez entendre un échantillon de ce qu'ils transmettent vers la terre. Le suivi direct de l'activité solaire dans le domaine des radio fréquences est facilement accessible aux radio amateurs. Ceux qui ne sont pas pollués par des parasites radio électriques divers peuvent se rendre compte des sursauts d'activité du soleil en mesurant le niveau de bruit dans les bandes décamétriques. La bande 20Mhz est une bonne candidate pour ce genre de mesure. L'apparition de taches solaires se traduit par des montées rapides du bruit de fond suivies de descentes graduelles qui durent au plus quelques minutes. De nombreux amateurs se livrent à ce type d'expérimentation comme Dave Thomas, un radioamateur américain (indicatif N2JUP). Point n'est besoin d'avoir des antennes géantes pour suivre les sursauts du soleil sur 20.1 mhz. Un double dipole en croix taillé pour la fréquence de 20 mhz placé à 6m. du sol est suffisant. Comme récepteur, il n'est pas obligatoire de disposer d'un super récepteur avec préamplificateur refroidi dans l'azote liquide. Pour sa part, N2JUP utilisait un récepteur à conversion directe (RJ1) qu'il avait construit à partir d'un kit largement diffusé aux USA sous l'impulsion de la NASA pour l'écoute des signaux radio envoyés par la planètre Jupiter. Le kit n'est pas bien cher (environ 150 US$, voir plus de détails sur http://radiojove.gsfc.nasa.gov/telescope/) mais n'importe quel recepteur de trafic ou un transceiver moderne peut aussi bien faire l'affaire. La sortie audio du récepteur était échantillonnée par la carte son d'un micro-ordinateur et décodée en utilisant un logiciel disponible gratuitement sur le WEB (radio-skypepipe) que l'on peut télécharger à l'adresse : http://www.radiosky.com.

Il n'est pas facile lorsque l'on débute dans ce genre d'activité de savoir différencier un bruit d'origine extra-terrestre d'un vulgaire bruit d'origine humaine dont l'intéret scientifique est plus modeste. Heureusement, nos oreilles (et le cerveau qui va avec) sont capables de faire la différence pour peu qu'on les aient entrainées au préalable. Ceux qui souhaitent s'entrainer à ce genre d'exercice auront tout interêt à se connecter au site de la NASA où il pourront charger une séquence audio rassemblant des exemples de bruits caractérisitiques émis par le soleil et d'autres astres de notre galaxie. http://radiojove.gsfc.nasa.gov/audio/ufsamples.mp3

Une autre facon de se tenir au courant de l'activité solaire en temps réel et sans materiel particulier consiste à se connecter au site http://www.spaceweather.com qui est specialisé sur la meteo solaire.

COMIC'S HAM

La rubrique détente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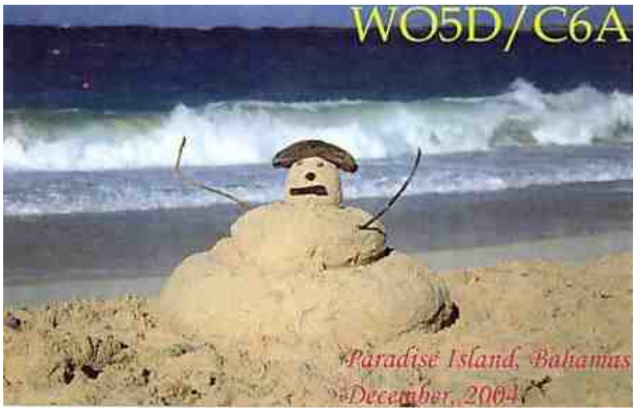


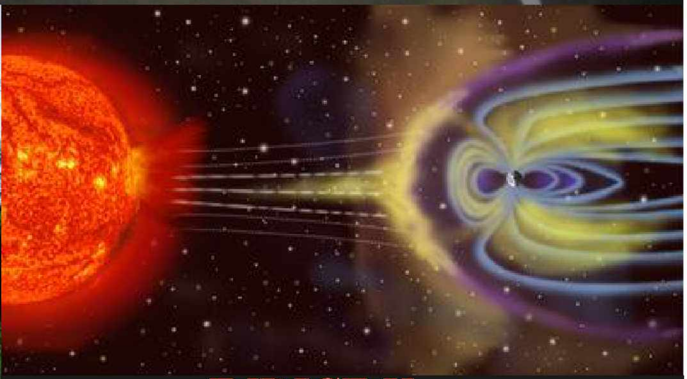
HAM-MAG

Le 1er E-magazine pour radioamateurs, SWL, cibistes...

LA LOUVIERE 2008 : visite guidée

LIEU INSOLITE

A DECOUVRIR !



INDICE K et Tempêtes solaires

NUMERO 1
GRATUIT

30 SEPTEMBRE 2008
http://ham.france.free.fr

EDITORIAL

Bienvenu dans le premier numéro de « HAM-MAG » !

Le 21ème Siècle, c'est la période de communications rapides et modernes. C'est pourquoi les magazines classiques papier laisseront petit à petit la place aux « E-magazines » plus économiques, sans délai d'acheminement et surtout sans papier, donc *écologiques.*

Les radioamateurs ont toujours été à la pointe de la technologie dans tous les domaines qui les entourent. Curieux, inventifs et créatifs, ils recherchent la nouveauté et l'évolution. Mais avons-nous sû prendre le coche et nous adapter à notre époque ?
Quand on pose la question à une personne quelconque en lui demandant ce qu'est le radioamateurisme, la plupart du temps, elle ne sait que répondre, ou fera l'amalgame avec nos amis cibistes. Notre population vieillit et diminue. Les sympathisants se font rares et les manifestations se déroulent dans l'indifférence générale.
La disparition des magazines « Mégahertz » et "ondes magazine" est le reflet d'un changement de mentalité et de comportement. Si personne ne fait rien, notre activité risque de se perdre dans les abysses du passé…

Chacun peut, à sa manière, apporter une brique à l'édifice.
N'ayez pas honte de ce que vous faites, essayez de piquer la curiosité du quidam.
Internet reste le plus grand moyen de diffusion, mais cela ne suffit pas à faire sortir l'internaute de chez lui. Ce phénomène de repli et d'enfermement se retrouve dans toutes les activités. L'homme moderne préfère ses écrans à son écharpe !
Pourtant, si chacun d'entre-nous montre ce qu'il fait et sait diriger une personne vers les bonnes infrastructures, peut-être que nous aurions quelques nouveaux opérateurs.

Qui ne risque rien n'a rien !

Maintenant, pourquoi créer un nouveau magazine ?

Notre activité ne peut pas se passer de ce cordon ombilical indépendant. Nous avons besoin de nous retrouver et de recentrer les informations. Internet offre de nombreuses informations, mais elles sont éparpillées et n'offrent pas toujours une mise en page claire et agréable.

C'est peut-être de la folie, mais ne sommes-nous pas tous un peu fous ?

Ce premier numéro permettra de jauger la température, nous acceptons les critiques constructives et ne demandons qu'à nous améliorer. N'hésitez-pas à participer et à proposer. L'aventure commence et le parcours sera semé d'embûches mais qu'importe, la passion est là. Et vous, qu'en pensez-vous ?

Bonne lecture et cordiales 73 !
Vincent FAUCHEUX, F5SLD
ham.france@free.fr

HAM-MAG

N°1

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Remerciements à **F5OZK, F1OK, F6DGU, VE2OWL, F5RCT, F0FPP, ON3MAJ, Jérôme**.

Merci aux différents annonceurs qui nous accordent leur confiance et à tous les O.M. qui nous ont envoyé des messages de soutien.

Ce magazine ne demande qu'à s'améliorer et s'étoffer. N'hésitez pas à nous envoyer vos infos, vos avis et vos suggestions.
Mail : ham.france@free.fr

Pour garder ce magazine en distribution gratuite, nous aurons besoin d'articles et surtout d'un grand nombre d'abonnés (crédibilité vis à vis des annonceurs).
C'est pourquoi nous incitons nos lecteurs à ne pas copier et envoyer cette revue à leurs amis mais plutôt les inviter à s'abonner. C'est gratuit et sans publicité intempestive.
N'oubliez pas que ce magazine a été réalisé par des bénévoles au détriment de leurs heures de loisirs et de trafic.

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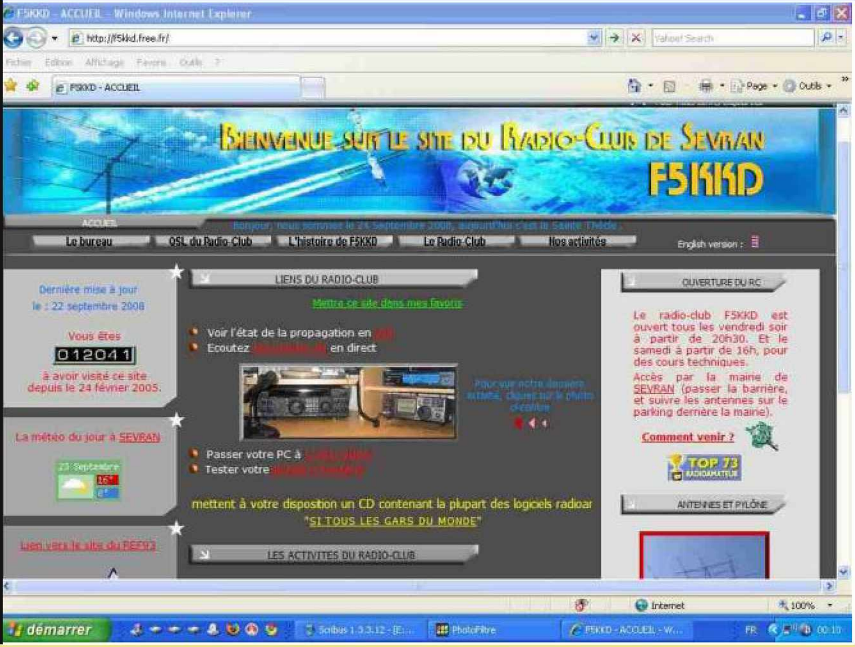
F5KKD, le radio-club de Sevran (93)



Dernière mise à jour
le : 22 septembre 2008

Vous êtes
012041
à avoir visité ce site depuis le 24 février 2005.

La météo du jour à SEVRAN

Voir l'état de la propagation en

Ecoutez [illegible] en direct

Passer votre PC à

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mettent à votre disposition un CD contenant la plupart des logiciels radioar
"SI TOUS LES GARS DU MONDE"

Le radio-club F5KKD est ouvert tous les vendredi soir à partir de 20h30. Et le samedi à partir de 16h, pour des cours techniques.

Accès par la mairie de SEVRAN (passer la barrière, et suivre les antennes sur le parking derrière la mairie).

La première impression en survolant ce site est que ce club est jeune et actif. Pas jeune par son âge (plus de 40 ans), mais par ses membres.

On voit de suite que c'est avant tout une bande de copains qui partagent une passion. Leurs activités sont diverses et enrichissantes. De l'expédition au contest, de l'atelier bricolage aux soirées à thèmes, se retrouvent tous les vendredis soirs des radioamateurs ou SWL en quête d'activités communes. Le site est centré uniquement sur le radio-club, c'est-à-dire, ses activités, son histoire, ses QSL, etc.

C'est donc un club actif, voire très actif et aux activités diversifiées.

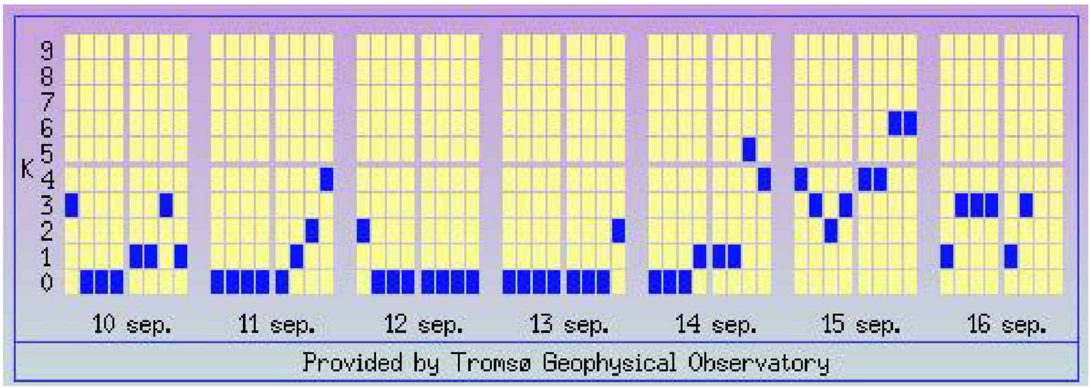
Ici, pas de chichis ou de logiciels à télécharger. Quelques liens et quelques fonctions diverses complètent le tableau.

Site à retenir pour les OM des départements 93 et limitrophes, ou pour les OM de passage. L'accueil y sera toujours chaleureux et le visiteur lambda ne sera pas mis de côté.

Adresse : **http://f5kkd.free.fr**

INDICE K... A quoi ça sert ?

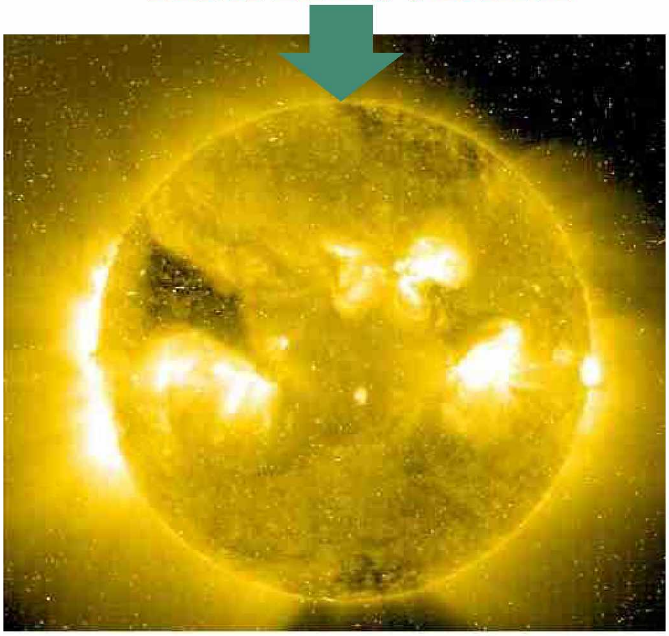
Si vous utilisez un logiciel de calcul de propagation, vous avez sûrement remarqué qu’il faut entrer l’indice K (compris entre 1 et 9). A quoi correspond exactement cet indice ? C’est l’indice pour quantifier :
L'activité géomagnétique
L'activité géomagnétique, celle de la Terre, affecte aussi les conditions HF et est une conséquence de l'activité solaire. L'activité géomagnétique peut faire en sorte d'annuler complètement les avantages d'un flux solaire élevé car l'activité géomagnétique instable augmente le bruit de fond sur les bandes, le QRN d'origine géomagnétique.



Provided by Tromsø Geophysical Observatory

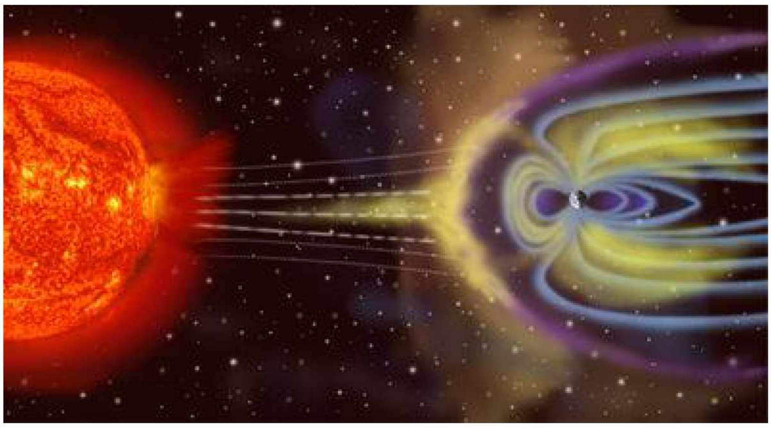
Il y a 2 indices pour quantifier l'activité géomagnétique: l'indice A et l'indice K. Ces indices proviennent de nombreux observatoires au niveau mondial qui mesurent les perturbations du champ magnétique. Les perturbations du champ magnétiques (nT) sont mesurées toutes les 3 heures à l'aide d'un magnétomètre et la déviation de la mesure est comparée à une journée de calme pour chaque observatoire.

TEMPETE SOLAIRE



L'indice K est une mesure logarithmique et donc chaque augmentation d'un point correspond à un facteur de perturbation de plus en plus majeur.

Mathématiquement, les scientifiques avaient besoin d'un deuxième indice, afin d'établir des moyennes sur les lectures (eh oui, chers lecteurs, on ne peut pas faire la moyenne de logarithmes), de là est né l'indice A



Des valeurs d'indice K de 0 à 2 représentent des conditions géomagnétiques calmes (peu de bruit de fond, peu de QRN). Des valeurs de K de 3 à 4 représentent des conditions géomagnétiques changeantes ou agitées (K=3) à actives (K=4) et il y aura donc beaucoup de bruit de fond.
Des valeurs K de 5 à 6 surviennent lors d'un orage magnétique et de 7 à 9 représentent un orage magnétique majeur qui se représenterait alors en ondes par des périodes de silence radio total qui bloquerait les communications HF. (fermez votre radio HF et ouvrez votre VHF)

Il est bon de noter que les tempêtes ionosphériques et magnétiques sont différentes, même si elles affectent de la même façon les conditions HF. Une tempête géomagnétique affecte le champ magnétique de la Terre alors qu'une tempête ionosphérique affecte les conditions des couches ionosphériques ionisées et causent finalement des perturbations au champ magnétique. L'énergie des tempêtes ionosphériques sont mesurées à l'aide d'un capteur dans la bande des rayons X. Donc, s'il y a une déflagration majeure au niveau du soleil et que l'énergie mesurée dans la bande des rayons X augmente, on peut s'attendre à une augmentation prochaine des indices A et K.

VE2OWL

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Les infos DX

3V, TUNISIE

Dmitry, RW4WM, sera QRV sous 3V8SS depuis Sousse du 29/09 au 8/10
QSL via RW4WM, en direct ou via Bureau.

A4, OMAN

Les membres de la "Lufthansa Amateur Radio Club (LARC)" et du "Norden District of the DARC (DOK I09)", opéreront les indicatifs suivants du 30/10 au 01/11 :
A43DLH - Depuis le QG de ROARS
A43DLH/P - Depuis le camp scout Omani
Activités toutes bandes en : CW, SSB et modes digitaux (dont la SSTV).
QSL Manager : Rudi, DK7PE.

JX, JAN MAYEN

Al, LA9SN, sera de nouveau actif sous JX9SN pendant quelques heures le 08 octobre. Il sera en CW sur 30 et 20m. QSL en direct via LA9SN.

VR, HONG KONG (AS-006)

Vincent, F4BKV, y travaille jusqu'en septembre 2009. Indicatif utilisé : VR2/F4BKV
Activité principalement en PSK31 (et un peu de SSB).

CENTRAL PACIFIC TOUR (T30 et T31, peut-être C21 et T33)

Toshi, JA8BMK, partira de Sapporo le 30 sept. en direction de Fidji (3D2) et volera de Fidji vers les Kirabati de l'Ouest (T30). Il arrivera le 2 octobre, naviguera vers les Karibati centrales (T31) pour un parcours de 30-45 jours. En attendant son départ (vers T31), Toshi activera T30 pendant son temps libre. L'équipement est deja parti et est arrivé en T30. Modes prévus CW, SSB, RTTY, PSK31 et SSTV. HIl concentrera son activité vers l'Europe et les USA sur les bandes basses et sur 30/17/12 metres.
Si l'occasion se présente, il ira sur Nauru (C21) et sur l'île Banaba (T33). A surveiller donc.
QSL via JA8UWT.

3B7, ILE ST. BRANDON

Rachid, 3B8FQ, prévoie d'activier l'île St. Brandon avec le call 3B7FQ, en Octobre. Les dates ne sont pas encore déterminées, surveillez le cluster.

8Q7, MALDIVES

Mark/M0DXR, et son XYL Gemma/2E0WPX, y séjournent en voyage de noces jusqu'au 5 octobre. Il sont actifs sous 8Q7XR en CW et SSB de 40 à 10m. . QSL via M0DXR, direct ou bureau.

EVENEMENT SPECIAL AU CANADA

Tous les radioamateurs canadiens peuvent utiliser un préfixe spécial au mois d'octobre (célébration de la fondation de la colonie British Colombia en 1858). Les préfixes seront :
VE = CK   VO = CY
VA = CJ   VY = CZ
Site web : http://www.hambc150.info

L'O.M. de la semaine

Je m'appelle Sébastien, j'ai 31ans et mon indicatif est **F0FFP** depuis juin 2006.

J'ai, comme beaucoup, découvert la radio en 1995 alors que je venais de m'offrir le fameux TX TARGA et son antenne (TX que l'on trouvait chez le revendeur du coin). Ensuite parcours classique : le trafic DX sur le 27MHZ. J'y totalise 178 pays contactés au DXCC.
Depuis la radio a prit place dans ma vie et cette envie croissante est due à mon Maître JEDI F6BCU qui, au fil des années, a participé activement à cet amour pour la radio. Il m'a rapidement appris la Télégraphie que je maîtrise plutôt bien aujourd'hui. Sans oublier la bidouille qui a pris une grande place au shack radio.
Vous remarquerez qu'entre 1995 et 2006, il y a de nombreuses années sans indicatif. Mon activité principale était l'écoute mais l'idée de passer ma licence était toujours présente. J'ai rapidement pris goût à la CW suite à ces leçons qui étaient parfois difficiles à mon avis. C'est donc principalement pour cela que je décide aujourd'hui de ne pas en rester là et d'aller gagner l'indicatif F8FFP. Je souhaite trafiquer en CW sur les bandes déca, c'est ma priorité.
Aujourd'hui je travaille dans mon petit coin avec cette partie qui est un peu pour moi la Bête noire, je veux bien sûr parler de la technique. Je suis en ce moment sur mon second TX home made le fameux TX BINGO de F6BCU avec tous les OM qui y travaillent (ils se reconnaîtront).

Présentation de la station F0FFP

TX HF : TS50S, HW101 et son Alim.
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Un oscilloscope 100MHZ
2 DIP mètre
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Et la PIOCHE...

Je rends hommage à **F6BCU** pour sa patience et son soutien depuis maintenant 10 ans et je salue le travail qu'il effectue encore aujourd'hui pour partager ses connaissances depuis plus de 40 ans. Son travail est de faire perdurer les vraies valeurs de notre loisir, que sont la bidouille et la télégraphie, éléments primaires pour nous radioamateurs.

73 à tous et au plaisir de croiser les antennes !

@ Une visite s'impose !

Pour les amateurs de 50, 70, 144, 432 Mhz, EME, JT65, bandes basses... Il existe un site de discussion en direct.
Idéal pour s'échanger des infos, faire des "skeds" en direct, annoncer une station. Attention, les discussions et commentaires sont en anglais.
Un site à garder dans ses favoris !

http://www.on4kst.com

Contrôler son émission via Internet ou plus simplement faire de l'écoute depuis son travail, c'est possible grâce à PA3FWM.
Sur son site, vous aurez accès en direct à 3 bandes :
3.5 - 7 - 14 Mhz.
Pratique et simple d'utilisation ce site est une petite prouesse technique à encourager.

http://websdr.ewi.utwente.nl:8901/

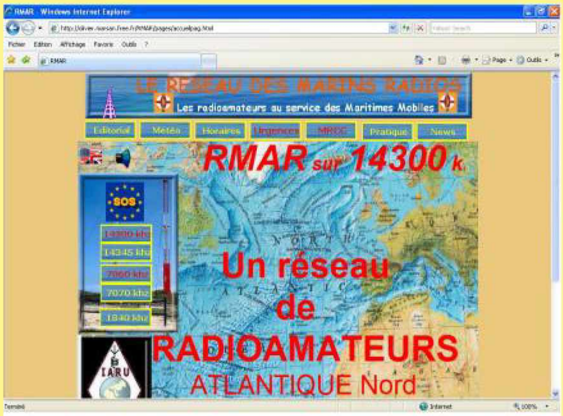
J'ai le plaisir de vous présenter le site Internet du RMAR, le réseau des marins radios qui assure une veille et la transmission des messages de détresse d'urgence et de sécurité avec les navires en mer sur les fréquences 14.300 Mhz en USB et 7.060 Mhz en LSB.
Nous couvrons actuellement l'océan Atlantique, la mer du Nord, les Antilles, la Méditerranée et l'océan Indien.
Pour mieux nous connaître, visitez notre site Web :

http://olivier.marsan.free.fr/RMAR

Et le site de notre association AMARAD, les marins radios civils et militaires :

www.amarad.org

73 de Olivier Marsan F6DGU,
coordinateur RMAR


RMAR - Windows Internet Explorer
Fichier Edition Affichage Favoris Outils ?
RMAR
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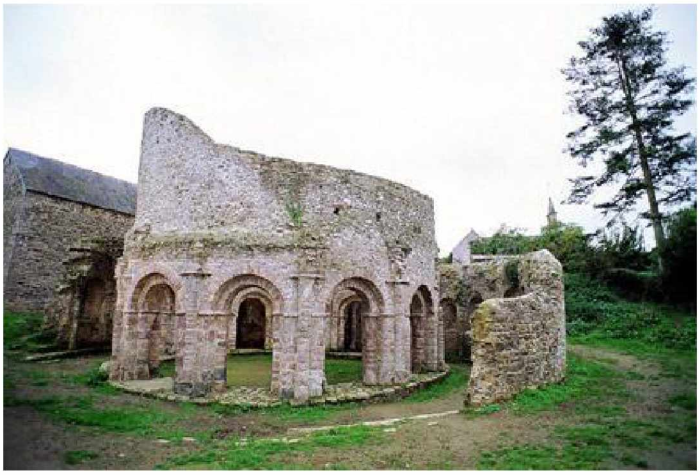
Lieu insolite

Chaque semaine, HAM MAG vous propose de découvrir un lieu insolite en France. Même si cela ne semble pas avoir de lien direct avec la radio, ça peut cependant donner une idée d'endroit à activer lors de vacances.
Cette semaine,

LE TEMPLE DE LANLEFF (22)

Nous sommes en présence d'une curieuse construction circulaire. Douze piliers supportent par leurs arcades un mur délimitant un espace central. Autour de cette construction, un deuxième mur, concentrique au premier, délimite un déambulatoire. Ce deuxième mur, dont il ne subsiste que les trois quarts, était à l'origine constituée de seize arcades. Une partie des voûtes recouvrant le déambulatoire est toujours présente, mais la partie centrale est dépourvue de couverture. Le plan de l'édifice établi, en 1735, par le Marquis de Robien montre déjà l'édifice dépourvu de couverture. On peut d'ailleurs s'interroger sur l'existence d'un toit ou s'agit-il d'un espace à ciel ouvert ?



Le déambulatoire est complété par une chapelle absidiole. Les documents anciens montrent la présence de trois chapelles de ce type, ainsi qu'un narthex carré disposé à l'opposé de la chapelle survivante. Au cours du XIXème siècle, le bâtiment servit de vestibule à l'église de Lanleff. L'entrée de l'église se trouvait au niveau de la chapelle absidiole existante. En 1855, cette église a été détruite.

Les chapiteaux des colonnes étaient sculptés de motif géométrique, de personnages et d'animaux. Ces sculptures ne sont que très difficilement reconnaissables. D'étranges personnages nus avec des mains à quatre doigts ont été reconnus et interprétés comme étant Adam et Eve au paradis terrestre.

L'origine de ce monument se perd dans la nuit des temps. Les premières références à l'édifice datent de 1148 où Trihan, sire de Châtelaudrien en fait don au monastère bénédictin Saint Magloire de Léhon dépendant de l'abbaye de Marmoutier prés de Tours.

En 1735, le Marquis de Robien, président du parlement de Bretagne, décrit le temple dans son ouvrage "Description historique de l'ancienne Armorique ou Petite Bretagne". Il décrit notamment la présence d'un if au centre de la rotonde dont les branches servent de voûte à l'édifice. En 1810, Fréminville confirme la présence de l'if.

De là, les interprétations de l'origine du temple vont bon train. Certains y voient un temple romain, d'autres, comme Fréminville, un temple gaulois consacré au soleil. Le Gonidec y voit en 1808, un temple celtique dont les douze arcades font référence aux douze mois de l'année.

Penhouet voit en 1824, un baptistère des premiers chrétiens. Les templiers et les Hospitaliers de Saint Jean de Jérusalem furent également évoqués pour être à l'origine de ce temple. A l'heure actuelle, il est communément admis qu'il s'agit des ruines d'une église romane bâti au XIème siècle sur le modèle du St Sépulcre de Jérusalem (IVème siècle). Celle-ci aurait été construite par de riches pèlerins de retour de Terre Sainte. Il existe d'ailleurs quelques rares exemples de ce type de construction disséminés en Europe, comme l'église Ste Croix de Quimperlé ou l'église de Neuvy Saint Sépulcre dans l'Indre. Mais tout le monde n'admet pas cette hypothèse. Il est vrai que les Celtes avaient une prédilection pour le cercle et les sanctuaires ronds. Il a été retrouvé notamment dans la région de Quiberon des vestiges de temples de l'époque gauloise de forme circulaire. La découverte d'un édifice similaire au sud de Boston (USA), d'origine inconnue, a fait dire que les Bretons avaient traversé l'Atlantique bien avant Christophe Colomb ou les Normands.

Le temple de Lanleff possède également sa légende:

Une sorcière cupide y fit commerce avec le Diable. Elle lui vendit son nouveau-né pour douze pièces d'or. Après s'être emparé de l'enfant, le Diable jeta à la sorcière, les douze pièces d'or. En voulant les attraper au vol, la sorcière s'y brûla les mains, car les pièces sortaient tout juste du feu de l'enfer. Elle les laissa tomber et les pièces s'incrustèrent dans la margelle de la fontaine. En aspergeant cette margelle avec l'eau de la fontaine, vous pourrez les apercevoir. Mais avant de les ramasser, réfléchissez bien. L'or du Diable n'a apporté que le malheur aux pauvres mortels que nous sommes.

**Le village de Lanleff se trouve dans les côtes d'Armor (22)
entre Paimpol et Lannebert**

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Antenne HB9CV légère pour chasse aux renards VHF (F5RCT)

Pour les radioamateurs qui pratiquent la chasse aux renards en VHF, l'antenne HB9CV se présente comme la plus compacte des antennes directives. La description de cette antenne s'oriente vers une réalisation reproductible et accessible à tous.

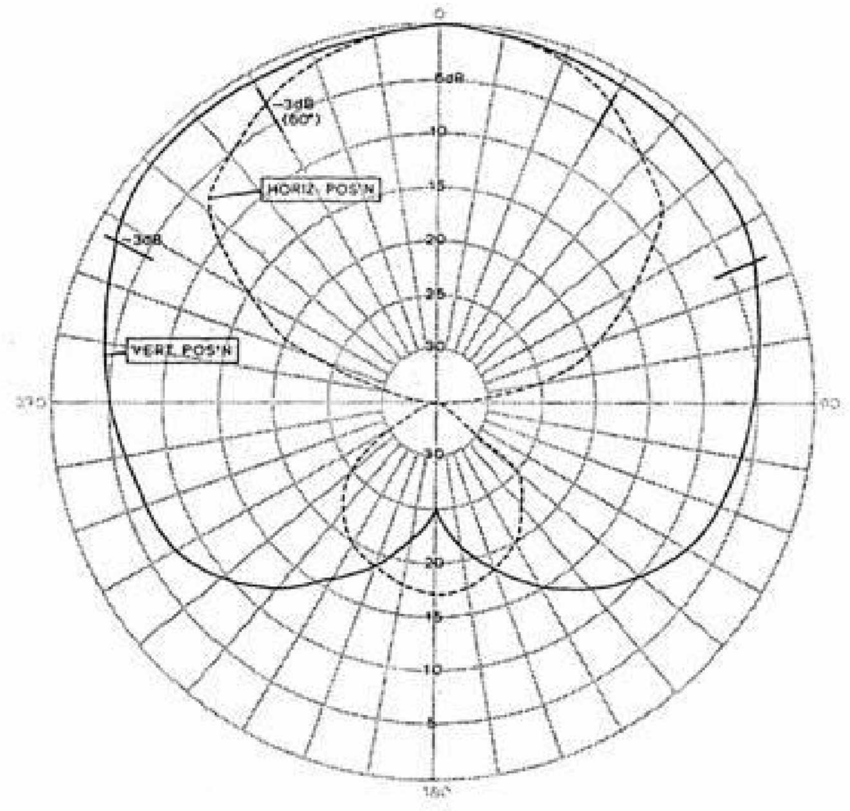
En radio goniométrie VHF de loisirs ou sportive, l'on se sert d'une antenne directive pour rechercher la direction de l'émetteur. Pour pointer un émetteur, l'amateur peut utiliser deux méthodes :

- Lorsque l'émetteur est éloigné et le signal est faible, la directivité avant / arrière suffit pour trouver une direction principale. Au fur et mesure de l'approche vers l'émetteur, le champ augmente et la recherche par le maximum devient floue et difficile.
- En présence de signaux forts, les creux latéraux de l'antenne présentent une atténuation très conséquente en fonction de l'angle d'orientation. Le signal se trouve atténué et la précision de pointage augmente !

L'antenne HB9CV se caractérise par une directivité avant / arrière de 15 dB environ et des creux latéraux de –30 à –40 dB par rapport à l'avant.

En VHF, l'envergure d'une antenne 3 éléments en demi-onde fait 1 mètre de large par 60 centimètres de long contre 30 centimètres de long pour la HB9CV.

Ci-dessous, le diagramme de rayonnement de l'antenne HB9CV pour une hauteur de 1 à 2 mètres du sol.



En position horizontale, l'antenne présente un rapport avant / arrière et un creux très prononcé perpendiculairement à la direction principale (diagramme en pointillé).
Document ARRL

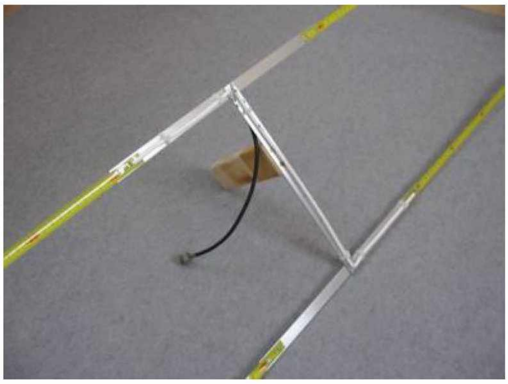
Bien que les dimensions de l'antenne HB9CV soient réduites, l'envergure liée à la demi-longueur d'onde peut poser des problèmes d'accrochages dans les passages étroits, au risque de casser les brins de l'antenne. Pour répondre à cette contrainte, on utilisera des brins fait de mètre ruban d'acier pour les extrémités.

Cette technique d'antenne en ruban d'acier ressort s'emploie dans le domaine militaire pour les postes de terrain portatifs, l'antenne se « froisse » puis revient à elle-même !

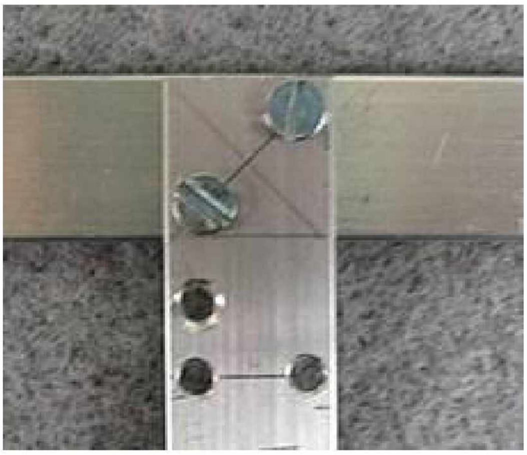
Néanmoins, la longueur des brins de l'antenne se limite au poids linéique du ruban par rapport à sa constante de rigidité. Trop long, le ruban se plie de lui-même et impossible de le faire tenir horizontalement. Contre cet inconvénient, il convient d'augmenter la largeur du ruban et mieux encore, d'en superposer plusieurs longueurs dégradées à partir de l'extrémité fixe.

J'ai essayé différents types de mètre ruban (les moins chers à 1.90 Euro les 2 à 5 mètres). Au-delà d'une quarantaine de centimètres, le ruban ne tient pas à l'horizontale ! Dans tous les cas, il faut que le coté incurvé (graduations) soit dirigé vers le haut ! L'antenne comporte une structure rigide de 40 cm d'envergure en aluminium, avec les quatre extrémités des brins en mètre ruban. Ceci donne un résultat très léger et maniable quand l'antenne et le récepteur sont tenus en bout de bras. L'antenne pèse moins de 250grammes. J'ai aussi mis l'accent sur la reproductibilité avec des matériaux que l'on peut trouver dans les grandes surfaces de bricolage (du plat d'alu, mètre ruban pas cher, vis, cosses et câble satellite TV au mètre).

Réalisation :

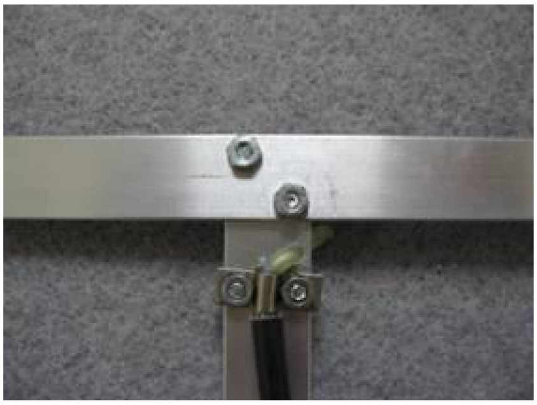


Pour construire la structure rigide en H, on commence par couper en trois morceaux un profilé plat d'aluminium d'un mètre de longueur et de 2mm d'épaisseur par 15mm de large. Couper un premier bout de 287mm de long pour l'armature centrale, puis le reste en deux moitiés égales de 354mm environ pour la partie rigide des brins. Sur les pièces de 354 mm percer des trous de 3 mm à 1 cm et 3 cm de chaque extrémité pour y fixer les bouts de mètre ruban. On en profite pour marquer le milieu de chaque pièce pour le centrage sur l'armature centrale.



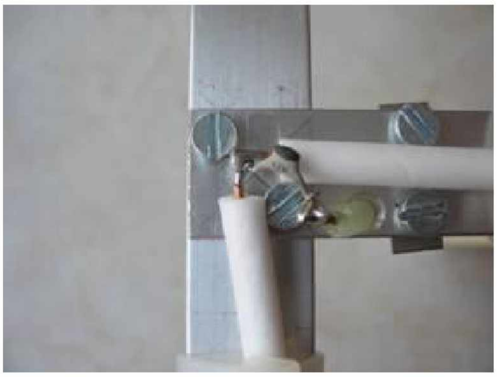
Sur l'armature centrale on y percera des trous de 4mm pour y fixer le récepteur et la poignée. Des trous de 3 à 3.5mm pour le cavalier du câble coaxial. L'assemblage de la structure se fait par deux vis de 3mm en diagonale des largeurs en regard. Le plus simple consiste à percer les deux trous. Puis, sur l'armature centrale reporter l'un des deux trous sur le brin superposé, percer et visser. Vérifier l'équerrage puis percer les 2èmes trous et mettre la 2e vis qui bloquera le tout.

Démonter un mètre ruban pour y découper avec des ciseaux à tôle des morceaux de 40cm environ. Pour percer les rubans on procédera par poinçonnage ou bien par un coup de pointe d'acier, suivi d'un perçage avec un foret de 3mm contre du bois. Pour le deuxième trou de chaque brin, on peut procéder comme précédemment : on se sert de l'alignement par le 1er trou que l'on visse. Puis, le 2ème trou sert de guide pour percer le ruban. Monter les rubans au fur et à mesure sur la structure en aluminium et disposer une cosse à œillet à chaque extrémités diagonales pour la ligne de raccordement (voir plan). Les rubans sont fixés au-dessus de la structure en aluminium, face graduée vers le haut. Couper les extrémités des rubans à la bonne longueur en respectant la symétrie de l'antenne. On gardera en mémoire que le câble coaxial est du côté avant de l'antenne là où les brins sont les plus courts !

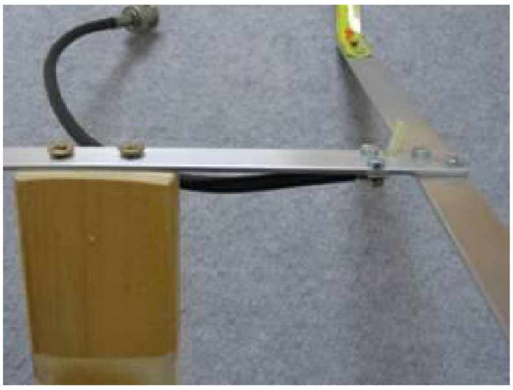


Les extrémités sont arrondies avec les ciseaux à tôle. Puis, le tranchant émoussé à la lime fine. Pour plus de sécurité, recouvrir les extrémités de gaine thermo-rétractable, ou d'un adhésif tissé (type Tésa), en faisant dépasser d'un demi-centimètre.

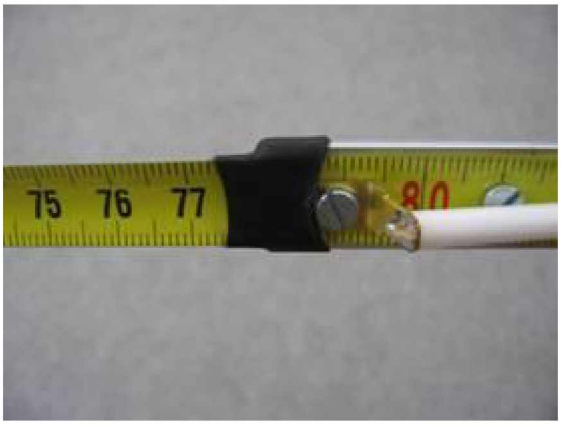
Il ne reste plus qu'à relier la ligne de raccordement et le câble coaxial. Pour cela récupérer un morceau de câble coaxial de 75 Ohms prévu pour la TV ou la réception satellite. L'âme de ce câble se reconnaît par sa matière en mousse de polyéthylène. Avec précaution on retire la gaine de ce coaxial pour ne garder que 50cm d'âme isolée. Souder le câble aux cosses en le faisant suivre sur la structure en aluminium. Cette ligne est tout simplement fixée contre la structure par des rubans isolants ou avec des colliers en plastique.



Le câble coaxial de sortie de l'antenne s'attache au niveau de la tresse de masse sous le cavalier. L'âme traverse du coté de la ligne par un trou. Terminer en soudant un condensateur céramique de 12 entre l'âme du coaxial et le coude de la ligne. L'étanchéité de cette jonction s'applique avec de la colle thermo fusible (pistolet à colle)



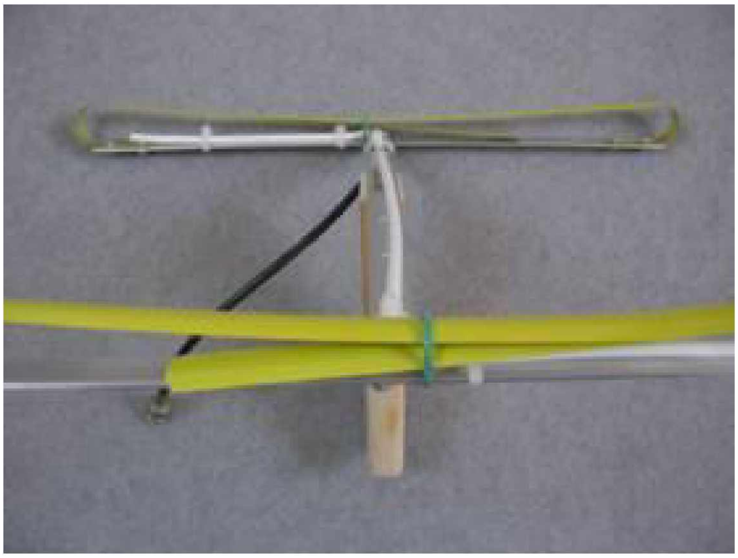
Au centre de l'antenne on y fixera un tasseau ou un bout de manche à balais de un mètre environ pour porter l'antenne. Mieux encore, le récepteur sera fixé sous l'antenne avec une poignée faite de 20cm de tasseau de 20x55mm de section. Les angles du tasseau sont arrondis à la ponceuse à bande.



Pour réduire la contrainte au niveau des fixations des brins en mètre ruban, on peut mettre un manchon de gaine thermo-rétractable ou quelques tours de ruban adhésif.

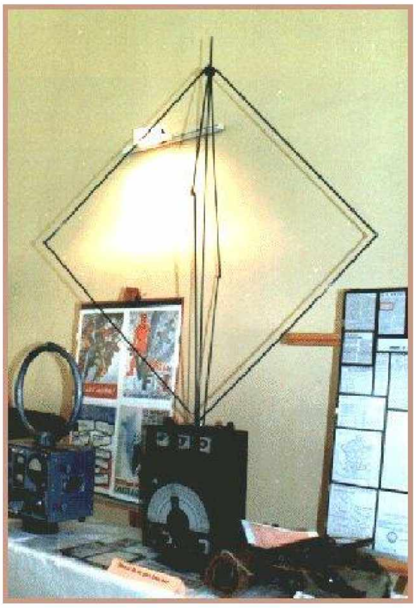
Pour ranger l'antenne et la replier, il suffit de rabattre les brins vers le centre et les maintenir sous un élastique. Simple et pratique !

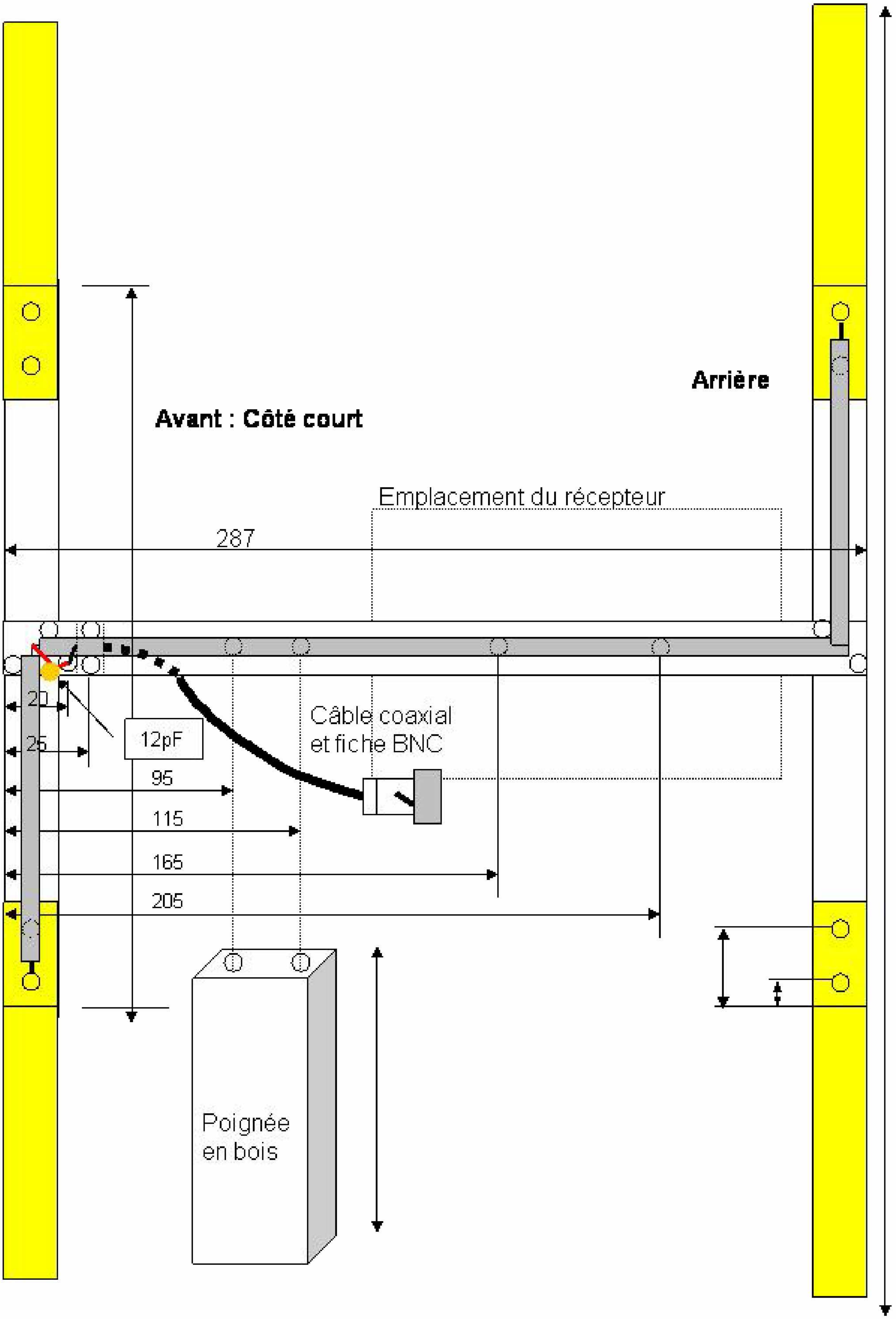
L'adaptation d'impédance de cette antenne ou TOS n'est pas optimisé vu que les distances des lignes ont été raccourcies pour réaliser l'antenne dans un mètre d'aluminium. Cette antenne est uniquement destinée à la réception.



Jean-Matthieu STRICKER F5RCT
F5RCT@laposte.net

Plan d'envergure de l'antenne et dimensions en mm - Sans échelle (page suivante)




Arrière
Avant : Côté court
Emplacement du récepteur
287
20
25
12pF
95
115
165
205
Câble coaxial
et fiche BNC
Poignée
en bois

Asia Radio Sales

Two way radios http://www.asiaradiosales.com

Feidaxin

150-A VHF £32.26

268A £34.91

268B £34.91

450-A UHF £32.26

Feidaxin

A280 VHF call for price

A380 UHF £44.96

FD-6288 UHF £43.90

Quansheng

TG-328/2 £33.85

http://www.asiaradiosales.com

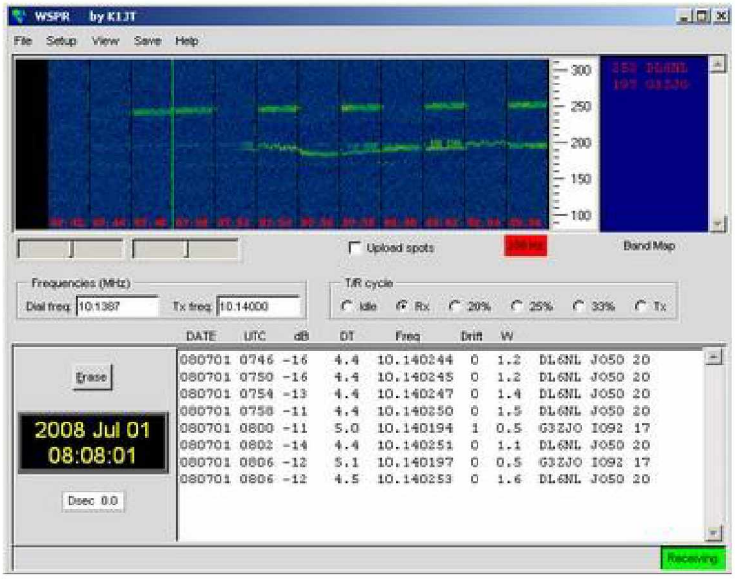
NOUVELLES DE L'ESPACE !

Par F1OK

NOUVEAU MODE DIGITAL

==========================

K1JT qui est à l'origine de plusieurs modes de transmissions digitaux utilisés par les radioamateurs du monde entier , a récemment récidivé en créant le mode WSPR (Weak Signal Propagation Reporter) K1JT qui est radio astronome de son état et accessoirement prix Nobel de physique s'était jusqu'à présent surtout intéressé , pour ce qui concerne ses réalisations dans le domaine radio amateur, à des modes permettant de réaliser des communications par réflexion sur des objets comme la lune (liaison EME) ou les trainées ionisées fugaces laissées par les "étoiles filantes" , les protocoles (mode FSK441 pour le trafic pour réflexion sur trainées de météorites , JT65 pour le trafic EME) n'étant pas les mêmes compte tenu des contraintes spécifiques à chaque type de liaison .Suite a une demande d'un autre amateur ZL1BPU il a mis au point un nouveau mode spécialement conçu pour ceux réalisant des communications par réflexions sur les couches ionisées relativement pérennes qui ceinturent notre terre entre 100 et 500 km d'altitude. L'objectif est toujours le même : réaliser une liaison la plus lointaine possible avec la puissance minimum. Pour pouvoir l'utiliser il suffit de disposer d'un transceiver opérant sur les bandes désirées et d'un micro-ordinateur doté d'une carte son .Le logiciel fonctionne sur tout microordinateur tournant sous WINDOWS En réception il écoute la sortie son du transceiver dans une bande de 200 hertz centrée sur 1500 Hz. En émission il transmet une porteuse BF modulée par le signal à transmettre que l'on injecte dans la prise micro du transceiver .Les signaux transmis on une structure fixe et redéfinissable par chaque utilisateur : on entre son indicatif , sa position géographique définie par son QRA locator ainsi que la puissance d'émission utilisée (en dBm) Ces informations sont codées , des codes de synchronisation sont ajoutés ainsi que des codes de correction d'erreurs .Le tout module une porteuse basse fréquence continue à 1.46 baud qui est transmise à l'émetteur réglé pour fonctionner en BLU .Compte tenu du nombre de bit à transmettre et de la vitesse de manipulation une transmission demande 110 secondes .L'espace en fréquence occupé par cette transmission est très faible (environ 6 hertz) et de nombreuses stations peuvent cohabiter dans seulement 100 Hz de bande passante .L'écoute comme la réception commence au début de chaque minutes paire et il est nécessaire de bien régler l'horloge interne du PC pour que tout le monde soit en phase .Les fréquences sur lesquelles on retrouve les adeptes de ce nouveau mode se situent dans toutes les bande décamétriques et métriques beaucoup utilisant actuellement la bande 30 mètres sur 10.1387 mhz .Pour récupérer le logiciel allez sur http://physics.princeton.edu/pulsar/k1jt/index.htm .Il ne pèse qu'un peu moins de 4 mégaoctets et s'installe très simplement sur tous les microordinateurs sous Windows 98 et postérieur .



Frequencies (MHz)

Dial freq: 10.1387

Tx freq: 10.14000

T/R cycle: ○ Idle ● Rx ○ 20% ○ 25% ○ 33% ○ Tx

2008 Jul 01 08:08:01

Dsec 0.0

```
DATE   UTC   dB    DT   Freq       Drift  W
080701 0746 -16   4.4  10.140244  0   1.2  DL6NL  JO50 20
080701 0750 -16   4.4  10.140245  0   1.2  DL6NL  JO50 20
080701 0754 -13   4.4  10.140247  0   1.4  DL6NL  JO50 20
080701 0758 -11   4.4  10.140250  0   1.5  DL6NL  JO50 20
080701 0800 -11   5.0  10.140194  1   0.5  G3ZJO  IO92 17
080701 0802 -14   4.4  10.140251  0   1.1  DL6NL  JO50 20
080701 0806 -12   5.1  10.140197  0   0.5  G3ZJO  IO92 17
080701 0806 -12   4.5  10.140253  0   1.6  DL6NL  JO50 20
```

Ce logiciel est un modèle de simplicité. La notice d'explication se resume à une page et on n'est pas perdu dans de multiples menus déroulants.

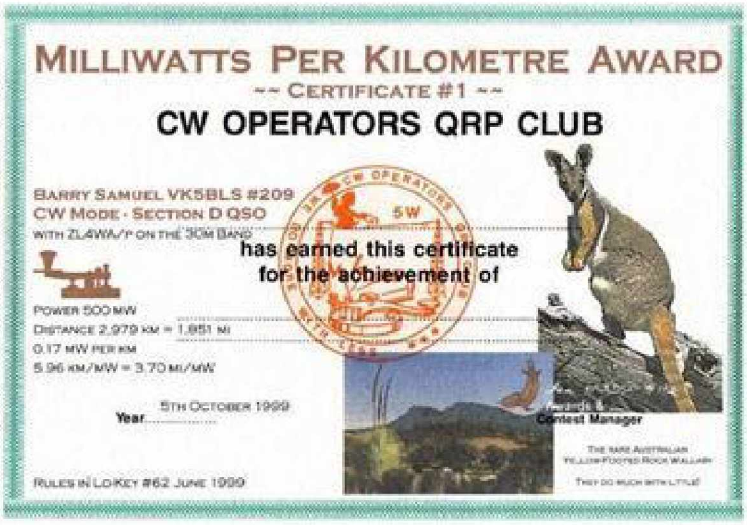
Il suffit de regler le transceiver en mode BLU sur la bande de fréquence ou se retrouvent les aficionados de ce mode pour voir apparaitre les informations décodées .Pour régler au mieux le transceiver il est préférable d'utiliser au préalable un logiciel faisant apparaitre en temps réel les stations présentes , celles opérant en WSPR étant facilement répérable par la faible bande passante occupée , bien plus faible que les stations opérant en PSK31.
On peut être dérouté au premier abord par le fait que le décodage ne se fait que par tranche de 2 minutes mais on s'y habitue vite et la sensibilité est remarquable : on est capable de décoder sans faute des signaux inaudibles à l'oreille .Pour en savoir plus sur le logiciel Il existe un site internet dédié à ce type de trafic ou l'on peut prendre rendez vous pour établir des liaisons ou pour partager des expériences voire des questionnements (voir http://wsprnet.org/).

Avec ce logiciel la notion de trafic QRP change de référentiel .
A en juger d'après les stations opérant actuellement en WSPR il devient aisé en période de minimum de cycle solaire de réaliser des liaisons fiables à plusieurs milliers de kilomètre avec moins de 1 watt HF dans l'antenne .

Avant même l'arrivée du WSPR le trafic à très faible puissance commençait à faire de plus en plus d'adeptes Il existe d'ailleurs des diplômes spécifiques couronnant des transmissions faites avec des puissances très faibles . Le critère retenu pour ces diplômes est souvent le nombre milliwatts de puissance HF nécessaire par kilomètre de liaison réalisée .

De nombreuses associations ont ainsi créé des diplômes ou il faut justifier de liaisons avec moins de 1 milliwatt par km comme par exemple le **AUSTRALIA QRP AWARD**
http://www.users.on.net/~zietz/qrp/club.htm ou
http://www.rogerwendell.com/qrpaward.html
Pour n'en citer qu'un relativement récent dans une liste qui devient longue .

La plupart des grands diplômes internationaux ont une catégorie spéciale QRP et on est surpris des performances revendiquées par certains amateur .Ainsi par exemple Bob Moody K7IRK , une station américaine basée dans l'Oregon a bouclé le WAS (Worked All States , contact de l'ensemble des états U.S) avec seulement 2 milliwatts , il est vrai comme il le reconnait lui même que la plupart des contacts furent réalisés sur la bande 10 mètres avec une propagation en haut de cycle solaire.


MILLIWATTS PER KILOMETRE AWARD
~~ CERTIFICATE #1 ~~
CW OPERATORS QRP CLUB

BARRY SAMUEL VK5BLS #209
CW MODE - SECTION D QSO
WITH ZL4WA/P ON THE 30M BAND

has earned this certificate
for the achievement of

POWER 500 MW
DISTANCE 2,979 KM = 1,851 MI
0.17 MW PER KM
5.96 KM/MW = 3.70 MI/MW

Year 5TH OCTOBER 1999

Awards & Contest Manager

THE RARE AUSTRALIAN YELLOW-FOOTED ROCK WALLABY
THEY DO MUCH WITH LITTLE!

RULES IN LOKEY #62 JUNE 1999

La notion de milliwatt/km n'est pas a elle seule suffisante pour caractériser le caractère exceptionnel d'une liaison QRP .Compte tenu de la loi d'atténuation des ondes radio en fonction de la distance s'il est facile de faire une liaison de 1 km avec 1 milliwatt il est plus difficile de faire une liaison à 1000 km avec 1000 milliwatt et c'est pourquoi certains diplômes exigent que la liaison ait été faite sur une distance minimum qui selon les cas peut être comprise entre 100 et 1000 km .Bien évidemment les conditions de propagation ont une grosse influence .Chacun sait que lorsque l'activité solaire est forte il est possible de contacter les antipodes en ondes décamétriques avec quelques watt alors qu'il faut des kilowatts pour faire la même chose en période de creux de cycle .En outre la fréquence de travail a son importance car dans le trafic qrp une limitation provient du bruit présent sur la bande et dans ce domaine plus on monte en fréquence ,plus le bruit devient faible et plus il devient facile de faire la liaison .SI l'on en juge d'après les dires de F2MM qui est un adepte du WSPR , ce mode permet de réaliser des liaisons fiables avec des puissances "sub-microscopiques" .Il lui a été ainsi possible de faire une liaison de 15 km en opérant en VHF avec 10 nano watts et 2 antennes omni directionnelles "Ground Plane" aux 2 outs soit donc 0.0000007 milliwatt/km .
Qui fait mieux ?

NOUVELLES DE PHASE 3 E

Comme chaque année fin juin (du 27 au 29 juin 2008) s'est tenu la grand messe du radio amateurisme européen à Friedrichshafen au bord du lac de Constance en république fédérale d'Allemagne Une occasion pour l'association AMSAT -DL de présenter à la communauté l'état d'avancement du projet de satellite amateur baptisé pour le moment PHASE 3E d'autant plus que le thème du salon 2008 était axé sur radio amateurisme et activités spatiales .La présentation en fut faite par Peter Gulzow DB2OS .La partie mécanique de PHASE 3E est terminée .Par contre ce n'est pas encore le cas pour le système gérant toutes les fonctions du satellite ainsi que pour certains transpondeurs .Une présentation du transpondeur linéaire 145/435 mhz opérant par voie logiciel a été faite par G6LVB et de nombreux amateurs passant dans le stand de l'AMSAT DL purent tester ses possibilités en direct .Pour ce qui est de PHASE 3E , la date de lancement pas plus que le lanceur ne sont finalisés .La proposition de mise en orbite faite par la société ARIANESPACE dépasse de trop loin les possibilités budgétaires et l'AMSAT DL compte explorer les possibilités de lancement via un lanceur indien , russe ou japonais . DH2VA fit une présentation du projet de satellite amateur en direction de la planète Mars (projet PHASE 5A) qui utilisera pour les transmissions les segments alloués aux radioamateurs dans les bandes 2.4 et 10 gHz. N'oublions pas ON6UG (Freddy de Guchteneire) qui montra en direct que recevoir les transmissions de sondes interplanétaires lointaines n'était pas hors de portée des moyens amateurs.

Chînons sur la toile

Après plusieurs mois de “non activité”, une nouvelle tache solaire vient d’émerger dans l’hémisphère nord du soleil. Cette nouvelle tache est un signe encourageant, indiquant que le cycle solaire de 11 ans progresse en effet, quoique lentement…

Lire la totalité de cette news sur: http://spaceweather.com
(Source : onlineradio.fr)

Les radios libres vont-elles devoir rendre l'antenne ?

Après la télévision, c’est au tour de la radio de faire sa révolution numérique. Mais cette réforme conduite par le CSA risque de faire des victimes. Les stations associatives craignent d’être réduites au silence.

Panique sur les ondes des héritières des radios libres, les radios associatives non commerciales. Elles qui ne sont déjà plus qu’une poignée craignent de devoir prochainement rendre l’antenne. En cause : la décision du CSA (Conseil supérieur de l’audiovisuel) de les faire entrer dans l’ère numérique à marche forcée. C’est en tout cas la conviction des membres de la coordination «Radios libres en lutte». Les stations réunies sous sa bannière redoutent d’être les victimes de la mise en place en 2009 de la Radio Numérique Terrestre (RNT), l’équivalent radiophonique de la TNT.

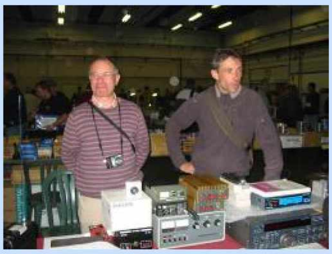
(Source : http://juralibertaire.over-blog.com)

Comment avoir accès à l'Internet haut-débit quand on n'habite pas dans une grande ville ?

Les fournisseurs d'accès classiques par Adsl ont généralement déserté les campagnes. Reste, pour les usagers, le recours à d'autres technologies, comme le satellite.
C'est sur ce créneau qu'une société toulousaine mise beaucoup d'espoirs : Auvéa Ingénierie travaille surtout pour les professionnels et a collaboré sur des projets télécoms d'envergure, notamment avec le Cnes. Au printemps dernier, elle a décidé de cibler le particulier, avec une offre Internet haut débit accessible sur 100 % du territoire national, y compris la Corse. Intitulée Viveole, celle-ci ne nécessite ni ligne téléphonique, ni abonnement complémentaire.

Nos forfaits débutent à 19,90 € par mois pour l'offre classique. Et nous avons un forfait à 512 Kbits/s pour 29,90 €, qui s'aligne sur la concurrence. »
S'appuyant sur le réseau satellite d'Astra, Viveole devrait intégrer dès octobre une offre TNT, avec le signal télé sur la même parabole que le signal Internet. Une offre qui pourrait séduire les quelque 2,5 millions de Français qui ne sont pas desservies aujourd'hui par l'Adsl.
« À Toulouse, nous sommes entourés de départements sur lesquels le haut-débit ne s'est pas généralisé, comme le Gers ou encore l'Aveyron », poursuit Alexandre Séménadisse. L'internet par satellite nécessite l'achat d'un pack de connexion coûteux : comptez entre 367 € et 399 € pour l'acquisition d'une parabole, d'une tête satellite et des accessoires de montage.
Un investissement de départ qui peut freiner les velléités des internautes des champs mais pour lesquels Auvéa promet des facilités de paiement. (Source : ladepeche.fr)

LA LOUVIERE 2008
Visite guidée



L'entrée, discrète...

Les 3 seuls visiteurs du salon (!)

Le Salon radioamateur et informatique de la Louviére existe depuis 14 ans. Sur 4000m2 repartis en 3 halls, vous y retrouvez l'ambiance Belge et une convivialité naturelle.
La matiné a commençé sous le brouillard, le tiers du trajet (25 minutes) dans une pûrée de pois digne de Londres. Pourtant, nous avons eu la chance d'avoir une journée ensoleillée et douce pour ce salon, c'est pas si froid le Nord !
En arrivant au parking de ce salon, ne vous attendez pas à voir de grandes banderolles et affiches. A part quelques pancartes qui traînent ici et là, la discrétion est plutôt de mise et de toute façon, ce salon n'a pas la vocation de s'afficher avec des titres ronflants, c'est aussi ce qui en fait le charme.

Le coin brocante

Après avoir payé votre entrée, on vous donne un bracelet pour pouvoir sortir et entrer de nouveau à votre guise. Ensuite, on commence (presque) tous par les halls de la brocante. 2 halls aux larges allées, le paradis du fouineur, car vous y trouverez de tout. Du câble coaxial au fil de cuivre pour monter sa filaire, du kit TV aux fiches diverses, du transceiver au micro de table, en passant par les vieux postes TSF, la liste est bien trop longue pour tenir dans un article. Quant aux prix, ils sont souvent plus que raisonables, voire intéressants. Il s'agit d'un salon radio et informatique, ainsi on y trouve du matériel informatique à des prix parfois cassés. Cette année aussi, il y avait pas mal de gadgets divers, dont des avions, hélicoptères, et autres véhicules télécommandés. Sans oublier les diverses lampes à LEDS, les piles (rechargeables ou non), les livres radios dans toutes les langues, même des anciens numéros de ondes magazine (SIC !), bref, tout ces petites broutilles qu'on aime avoir sous la main.

www.electrotheque.be

Quelques jouets pour papa ?

Le hall des professionnels est un hall des professionnels de la radio, de l'électronique, des pylônes, etc. Pas de stands présentant les produits culinaires locaux, mais ceux qui désirent rapporter ce genre de souvenir peuvent toujours aller au centre-ville. Ici, on baigne dans la radio à tous points de vue. Il suffit de discuter avec les OM (ou d'écouter les discussions), de parler avec les exposants pour voir rapidement que la passion existe toujours.

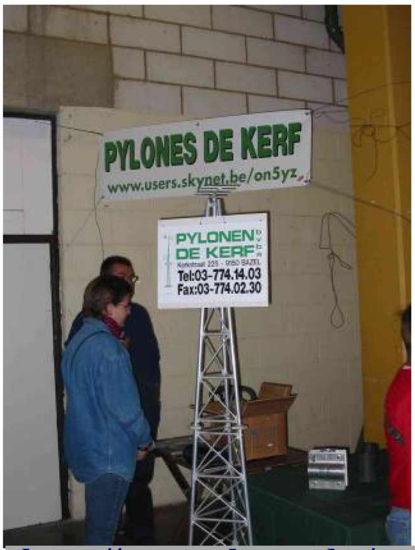
Le coin des portables à prix cassés !

Vous avez les incontournables, les fidèles, présents depuis nombre d'années. **Radio DX Center** présentant le matériel radioamateur, **GES Nord** avec Paul F2YT qu'on ne présente plus, **Difona** le revendeur allemand, les pylones **de Kerf**, **AZ-Télé-XL** qui présentait une antenne style canne à pêche de plus de 12 mètres dépliée et 1,5 mètre repliée, un concept intéressant pour le QRA vacances, **gigatech** pour la matériel TVA, **électrothèque** le spécialiste Belge en électronique, **FMG diffusion**, où F1GE vend des kit à prix très OM, **EPS antennas** vous montrait divers modèles d'antennes, **Transonic electronics** un revendeur de composants des pays-bas, **Tetra** un autre d'Angleterre, **Rosenberger** les composants THF, **ON5UR QSL** printing propose tous travaux d'édition et aussi des plaques lumineuses pour valoriser votre shack radio, sans oublier **l'UBA** l'union des radioamateurs belges et un radio club français bien connu **F5KFF** qui propose des cours pour la licence sur internet.

F6GYH

Faire le tour des stands, discuter prend du temps. Mais quel plaisir que d'échanger des informations et parler des ses expériences diverses. Egalement de retrouver des copains que l'on perd de vue, comme par exemple F6GYH et ses fameux kits TV.

Le midi, j'ai mangé dehors au centre-ville avec quelques OM, les conversations allaient de bon train, et le retour au salon fut un peu tardif, puisque des exposants commençaient à remballer, ce qui explique que sur certaines photos, on à l'impression que c'est désert !



http://users.skynet.be/on5yz/

Rassurez-vous, les succès à encore été au rendez-vous cette année.

Ce salon est important sur plusieurs points. D'abord parce qu'il reste un salon convivial, ici on n'est pas là pour se "prendre la tête", ensuite parce qu'il est bien placé géographiquemment, à 2h30 de Paris, 1h30 des pays bas, 2h00 de l'Allemagne, enfin parce qu'il est important de conserver ces salons, rares moments de détente où l'on rencontre les OM et où l'on peut mettre des têtes sur des indicatifs contactés maintes fois sur l'air. Au fil des semaines, nous reviendrons plus en détail sur certains exposants et ce qu'ils proposent.

C'est un salon à faire au moins une fois dans sa vie, au même titre que Friedrichshafen, Auxerre ou pour les plus chanceux Dayton.

Vincent F5SLD

WWW.TETRA.TV

http://www.difona.de

http://www.on5ur.be/

http://www.smgdiffusion.com

AGENDA

L'UBA Section KSD de Koksijde organise sa **Brocante** le **19 Octobre** 2008 au centre culturel " de Trounke " Dorp , 8630 Houtem (Veurne) - Portes ouvertes à 09h30 , Radioguidage 145.425 MHz
Boissons et Sandwiches dispo.
www.westhoek.be
Renseignement:
André Gisquière ON3BID , on3bid@telenet.be , Tel: 0032 486 79 80 85
Michel Simon ON7QL , on7ql@telenet.be , Tel: 0032 477 25 55 48
(Source : ON3MAJ)

Le samedi **18 octobre** prochain, notre ami Jean F6AOD, organise comme chaque année, sa **brocante TSF**, sur le parking de l'Hôtel Campanile, situé au 119 boulevard Robert Schuman, 93 - LIVRY-GARGAN.
L'entrée est gratuite, alors venez nombreux... Bien cordialement, Le REF93
(Source : F5OZK)

Samedi **04 octobre** et dimanche **05 octobre** se tiendra le salon radioamateur HAMEXPO à Auxerre (89 - Yonne). Le rendez-vous annuel organisé par le REF-UNION.
Sur les 4000 m² d'exposition vous y trouverez : Une brocante où vous découvririez l'appareil ou le composant que vous cherchez désespérement.
De nombreux exposants français et étrangers qui vous présenteront des composants, du matériel, des fournitures informatiques et bien d'autres choses encore.
Les associations françaises et étrangères avec lesquelles vous pourrez échanger des points de vue constructifs.
Toutes sortes d'activités ludiques.
Tarifs : entrée 8 € - Gratuite pour les YL et les QRP de moins de 12 ans
(Source : REF-UNION)

le samedi **04 octobre** 2008 a MILLAU dans le département de l'Aveyron (12) se déroulera le premier salon de la radio **SAMIRAD**.
Ouverture dela salle de 9h a 18h pour les visiteurs .
Entrée 5 € épouses et enfants gratuit .
SALLE DES EXPOSITIONS DU PARC DE LA VICTOIRE A MILLAU - LE FLECHAGE SERA ASSURE - AINSI QUE UN RADIO-GUIDAGE SUR 145.500 MHZ ;
Renseignements: f8dzc@aliceadsl.fr
Tel: 04 66 44 01 22 .
REBOUL DANIEL - Le Viala - 48400 Fraissinet De Fourques
(Source: ARV84)

HYPER

BULLETIN D'INFORMATIONS
DES RADIOAMATEURS ACTIFS
EN HYPERFREQUENCES

Num 140 Septembre 2008

QSO 122 Ghz F1GHB – F5EFD

Ce matin premier contact de quelques metres avec Maurice F5EFD sur 122,250 GHz.
Les 2 equipements (identiques) sont constitués d'un OCXO G8ACE, une Brick MA/COM(sortie aux environs de 13 GHz) un multi Celeritek 38 GHz (sortie sur 40 GHz) et un mélangeur subharmonique monté à partir du PCB mixer de DB6NT (X3) et une diode flip chip MA4E1317 de MA/COM.
Les différents essais nous ont permis de mettre en évidence qu'un des 2 quartz (origine Klove) a mal vieilli et glisse beaucoup plus que le 2ème , et que les convertisseurs 12/24V realises pour alimenter les bricks sont trop bruyants .

BRAVO A TOUS LES DEUX

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Herve Biraud (F5HRY@wanadoo.fr)
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jean-claude.pesant@IEMN.Univ-lille1.fr
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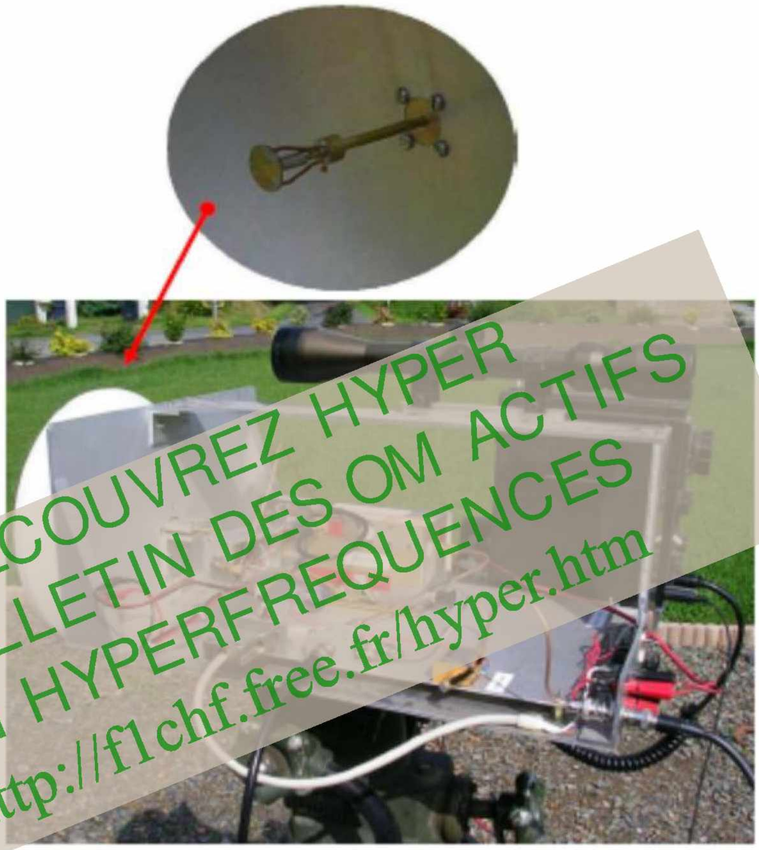

DECOUVREZ HYPER
LE BULLETIN DES OM ACTIFS
EN HYPERFREQUENCES
http://f1chf.free.fr/hyper.htm

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pages 5 et 6: La top-liste et les plus belles distances françaises par F5HRY
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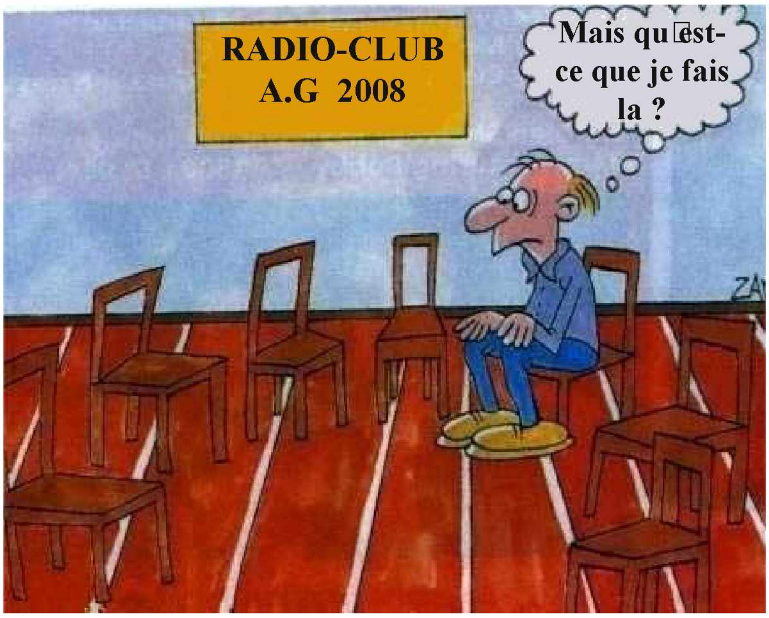
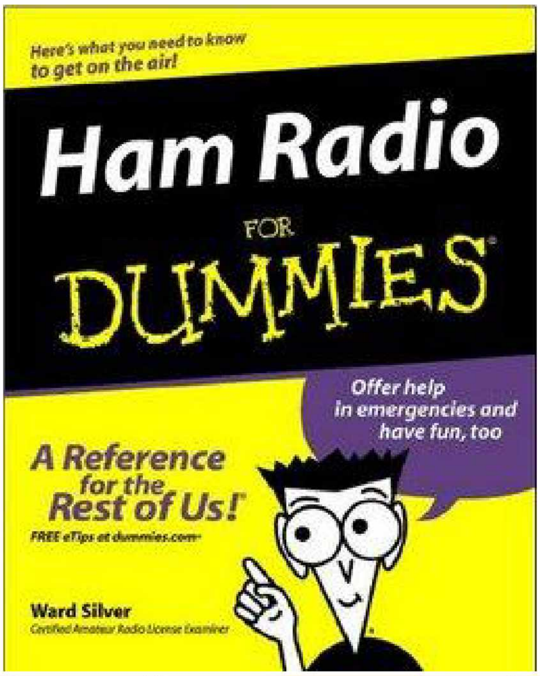
.page 18 Commentaires de JA de JUILLET 08
.page 19 à 23 Infos ds les regions

Tous les bulletins HYPER ➔http://dpmc.unige.ch/hyper/index.html (*par* Patrick F6HYE) ou http://f1chf.free.fr/hyper.htm
L'abonnement 2008 à HYPER pour l'année complète ➔ **26€ pour la France 30€ pour le reste de l'Europe**
(mandat poste ou cash , pas d'Euro chéque) ceci en direction de Jacques GUIBLAIS F6GYJ (voir plus haut)

COMIC'S HAM

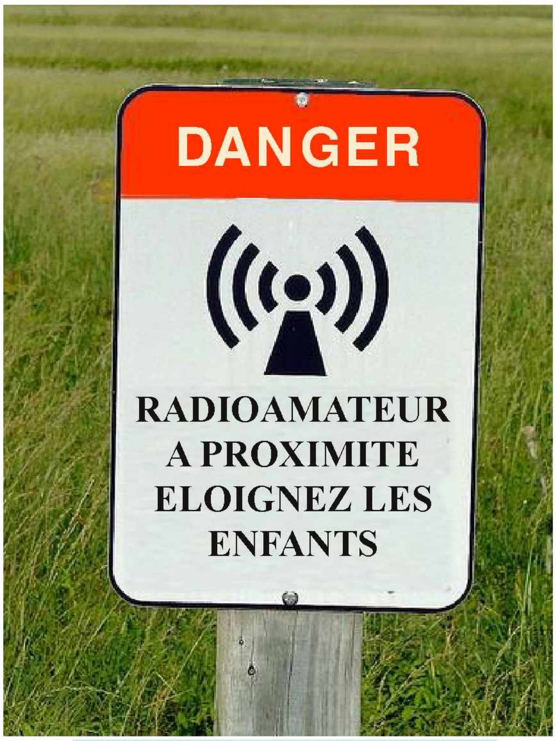
La rubrique détente


RADIO-CLUB
A.G 2008
Mais qu'est-ce que je fais la ?
ZA

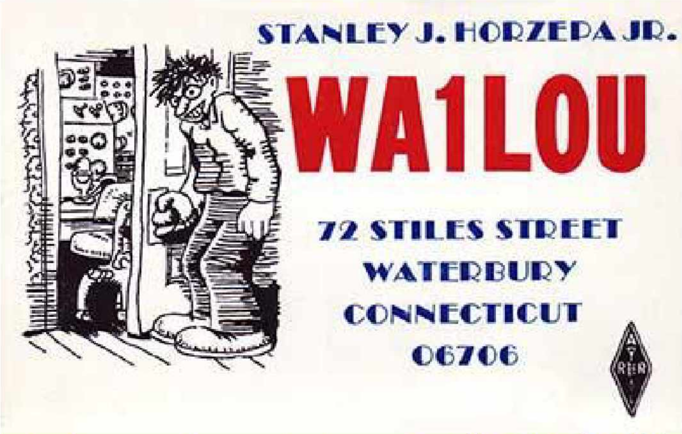

Here's what you need to know to get on the air!
Ham Radio
FOR
DUMMIES
Offer help in emergencies and have fun, too
A Reference for the Rest of Us!
FREE eTips at dummies.com
Ward Silver
Certified Amateur Radio License Examiner

Livre : radioamateur pour les nuls !

PEPE est toujours actif !



Futur panneau à mettre dans votre quartier ?

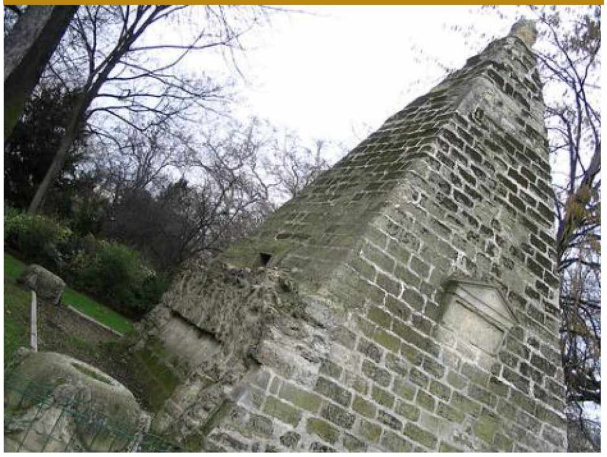


Lui, pour le contacter, c'est "WALOU" !

La Semaine prochaine ...

le paradis blanc

Lieu insolite : la pyramide de Monceau



La rubrique modes numériques par F4FCE

Ce premier numéro a été distribué à 290 personnes. Merci de votre confiance !
Pour continuer à avancer nous avons besoin de carburant. C'est pourquoi, nous tenons sur la participation active de chacun d'entre-vous. Plus de rubriques, plus proche de vous et parution hebdomadaire sont les fers de lance de la réussite.
N'hésitez pas à nous envoyer une adresse internet, une photo insolite, un compte-rendu sur une activité, un texte résumant votre station, une date d'évènement, etc.
Nous nous chargeons de la mise en page. Nous ne pouvons pas satisfaire tout le monde. Mais, si ce magazine vous convient, n'hésitez pas à en faire la publicité.
Plusieurs OM m'ont demandé durant le salon de la louvière si le fait de faire un magazine hebdomadaire ne serait pas trop contraignant et ne représentait pas trop de travail.
En fait, 30 pages par semaine ou 120 pages par mois représentent la même masse de travail, le reste n'est qu'organisation. Et il existe une contrainte technique, pour garder une qualité raisonable, une magazine de 30 pages en PDF fait environ 3Mo.
Un magazine de 120 pages ferait 12Mo et serait lourd à envoyer par Email.
Et puis, c'est plus symphatique de recevoir un journal toutes les semaines plutôt que d'attendre un mois... Donc :

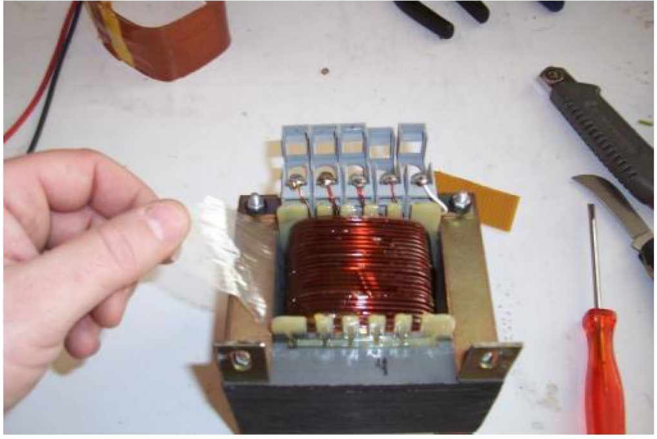
Rendez-vous la semaine prochaine et en attendant... Cordiales 73 !

Vincent de F5SLD

HAM-MAG

Le 1er E-magazine pour radioamateurs, amateurs radio, SWL...

AVIS DE RECHERCHE : OFFICIERS RADIOMARITIMES



RECUP□DE TRANSFO PAR F4CRM

Modes numériques, introduction par F4FCE

NUMERO 2
GRATUIT

06 OCTOBRE 2008
http://ham.france.free.fr

EDITORIAL

Un raz-de-marée ! Tel a été l'effet du premier numéro sorti la semaine dernière.

Comment aurait-on pu s'attendre à un tel succès ? Des centaines de courriels et de demandes d'abonnements. Merci pour tous ces messages d'encouragement !
Les nouveaux abonnés viennent de tous horizons, de France, de Belgique, de Suisse, du Maroc, d'Outre-mer, du Québec, etc.
Le concept séduit. Outre l'aspect pratique et convivial, il est surtout le reflet de notre Société actuelle. Aujourd'hui on veut tout, rapidement, et si possible, le moins cher possible. En cette période où les mots crise et pouvoir d'achat résonnent à nos oreilles plusieurs fois par jour, il est agréable de se détendre et d'apprendre des choses diverses via un magazine qui arrive tout seul dans la boîte à mails.

Ce magazine n'est que le porte-parole de notre passion. Les articles qui sont dans ce numéro viennent d'O.M. de cultures, de niveaux différents, et pourtant, si proches les uns des autres en y réfléchissant.

Et encore, ce n'est que le début ! On peut faire plus, on ne peut que s'améliorer. Le tout est d'être ouvert à tout. Les nouvelles technologies, les anciennes, les jeunes O.M. ou futurs O.M. qui aimeraient bien un coup de pouce, les anciens avec leurs expériences et leur savoir qu'ils ne demandent qu'à transmettre, tout ce panel de savoir et de soif de savoir dont il ne tient qu'à nous de partager.

Mais calmons la philosophie et revenons à nos moutons.

Dans ce numéro, vous y décrouvirez d'autres rubriques, d'autres informations qui nous sont parvenues grâce à la gentillesse de certains d'entres-vous. Les rubriques habituelles y sont également présentent. chacun pourra y trouver son compte, enfin, on l'espère !
N'oubliez pas d'amener vos idées, vos suggestions... Affichez-vous.

Nous avons commençé à démarcher des revendeurs et déjà certains apportent un vif intérêt à cette publication. Nous espèrons financer ce magazine par de la publicité. Certains pourraient s'en insurger, mais quel choix préférez-vous ?
Un magazine gratuit avec quelques publicités (qui peuvent vous intéresser) ?
Payer quelques Euros par mois ?

Personnellement, je ne suis pas dupe. Le succès de ce magazine vient du fait qu'il est gratuit. S'il devient payant, le nombre d'abonnés chutera et ceux qui resteront pourront tout à leur volonté copier et distribuer le magazine. C'est immoral, mais c'est que je ferais aussi pour faire plaisir à quelques copains. On est comme ça, on aime rendre service.

Finissons sur une note joyeuse, la propagation remonte ! Lentement mais sûrement...

Bonne lecture et cordiales 73 !
Vincent FAUCHEUX, F5SLD

HAM-MAG

N°2

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Remerciements à **F5OZK, F5IRO, F6DGU, F4CRM, F4ESK, F4FCE, F4URX, F6EJU, ON3MAJ, HB9DVD, HB9HFL, Jérôme**.

Merci aux différents annonceurs qui nous accordent leur confiance et à tous les O.M. qui nous ont envoyé des messages de soutien.

Ce magazine ne demande qu'à s'améliorer et s'étoffer. N'hésitez pas à nous envoyer vos infos, vos avis et vos suggestions.
Mail : ham.france@free.fr

Pour garder ce magazine en distribution gratuite, nous aurons besoin d'articles et surtout d'un grand nombre d'abonnés (crédibilité vis à vis des annonceurs).
C'est pourquoi nous incitons nos lecteurs à ne pas copier et envoyer cette revue à leurs amis mais plutôt les inviter à s'abonner. C'est gratuit et sans publicité intempestive.
N'oubliez pas que ce magazine a été réalisé par des bénévoles au détriment de leurs heures de loisirs et de trafic.

LA CHRONIQUE RADIOMARITIME

Par F6DGU

La radio-maritime aujourd'hui ?

"La radio-maritime et les Officiers radios"
" Monsieur, je viens de lire sur plusieurs sites internet des annonces pour des emplois d'Officiers radios ou d'Officiers éléctroniciens embarqués à bord de navires civils, je ne comprends plus rien, on m'a dit qu'ils avaient tous été supprimés à bord des navires ? "

TODAY CRUISE SHIP RADIO-STATION

Vous avez tout à fait raison, les Officiers radios et Officiers éléctroniciens de la marine marchande sont à nouveau recherchés pour des emplois à bord des navires. "

Voici quelques informations les concernants :

Aujourd'hui des sociétés et compagnies maritimes les plus disparates comme GREENPEACE ou des COMPAGNIES DE PAQUEBOTS publient des annonces pour embarquer sur leurs navires des Officiers radios ou des Officiers éléctroniciens qualifiés radio-GMDSS et possédant des connaissances en informatiques et éléctroniques.

Les navires d'aujourd'hui sont équipés en trés grande partie et contrôlés par un systéme informatique de plus en plus compléxe, tant au niveau des apparaux de conduite du navire comme les radars, sondeurs, pilotes automatiques et autres gestionnaires de systémes de navigation intégrés que des sytémes de surveillance incendie et contrôle des machines et calculs de stabilité du navire et du chargement.
Ces équipements demandent des compétences élargies d'informatique, de télécom et de navigation.

Ces compétences sont regroupées dans une spécialité : les OFFICIERS RADIOELECTRONICIENS DE LA MARINE MARCHANDE autrement appelés dans certains pays les OFFICIERS ELECTRONICIENS NAVIGANTS.
Ainsi ils partagent leurs temps entre le trafic (souvent presque complétement automatisé) radio, émission reception des avis EMS (émissions maritimes de sécurité, navtex, safetynet, bulletins météos) l'émission reception des é-mail directement par INMARSAT ou par SITOR avec quelques stations radios restantes équipées essentiellement de systémes tels que SAILMAIL entre-autres. La maintenance de la station réglementaire GMDSS et des systémes de navigation est une charge non négligeable et réglementaire pour les Offciers radioéléctroniciens embarqués. Ils assurent en outre la maintenance et le dépannage et la mise à jour des programmes informatiques du bord. De plus leur rôle d'éléctronicien permettent souvent à l'éléctricien du bord de recevoir le renfort d'une expértise souvent bienvenuePour que ces Officiers soient performants ils sont formés aujourd'hui dans différentes écoles et universités.

La France a choisi l'école DE LA MARINE MARCHANDE DE ST MALO pour la formation de ses OFFICIERS ELECTRONICIENS ET SYSTEMES DE LA MARINE MARCHANDE, l'Espagne posséde une filière universitaire qui délivre de brevet d'Officier RADIOELECTRONICIEN, les USA ont une école privée la Elkin Marine Training International Academy qui délivre les brevets de Radio Officer et d'Electronic Officer.

Il est bon de rappeler que réglementairement pour utiliser une station radio GMDSS en avigation hauturière il est nécessaire de posséder les certificats d'opérateurs suivants : CGO certificat général d'opérateur GMDSS ou CR1 certificat de radioéléctronicien de première classe GMDSS seul certificat permettant d'assurer la maintenance en mer des équipements GMDSS.

O. MARSAN
Officier radioéléctronicien de premiere classe de la marine marchande radioamateur **F6DGU**

AMARAD . ORG
Les Marins Radios

Station radio en 1912 (Titanic)

Station radio maritime en 2008

•1008• Prix TTC valables pour le mois de parution - Port en sus

Emetteur-Récepteur FT-950

pour le DX exigeant HF/50 MHz 100w

YAESU

Le choix des DX-eur's les plus exigeants !

Garantie 2 ans sur matériels Yaesu radioamateur

- **Récepteur à triple conversion super-heterodyne, 1ère fréquence intermédiaire à 69.450 MHz.**
- **Roofing filter de 3 kHz sur la 1ère fréquence intermédiaire.**
- **Un synthétiseur digital direct (DDS) ultrarapide et un PLL digital permettent un oscillateur local aux performances exceptionnelles.**
- **Cinq mémoires de message vocaux avec le DVS-6 optionnel.**
- **Grand affichage multicolore lumineux et parfaitement contrasté.**
- **Le DSP Yaesu est sur une fréquence intermédiaire. Il permet une réception confortable et efficace.**
- **Le DSP agit en émission et améliore la qualité des modulations BLU et AM. Le FT-950 dispose d'un égaliseur paramétrique sur le microphone et un processeur de parole.**
- **Le FT-950 intègre d'origine un oscillateur haute stabilité (TCXO) ±0.5 PPM après 1 minute à 25 °C.**
- **Boite d'accord automatique intégrée d'origine avec 100 mémoires.**
- **S'alimente en 13,8 VDC - 22 A**

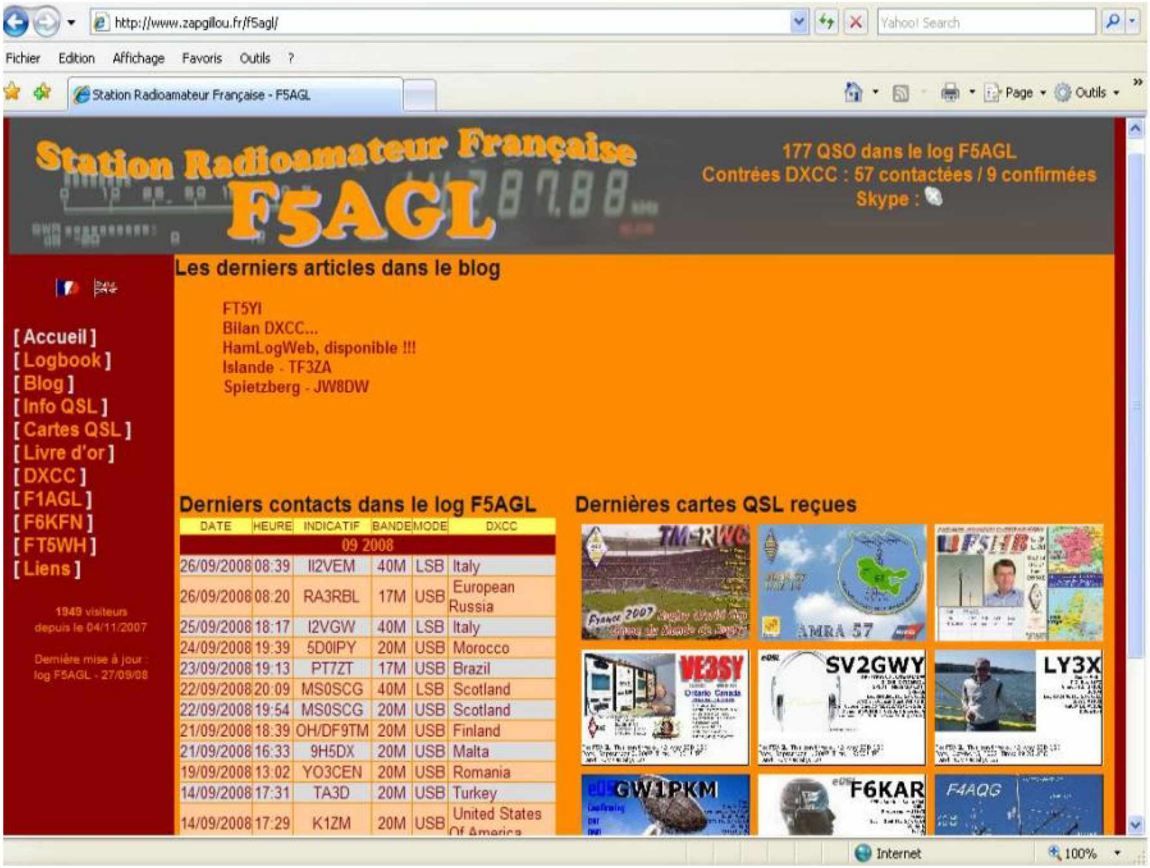
Dimensions :
365mm x 115mm x 315mm
(LxHxP)

GENERALE ELECTRONIQUE SERVICES
205, rue de l'Industrie - Zone Industrielle - B.P. 46 - 77542 SAVIGNY-LE-TEMPLE Cedex
Tél. : 01.64.41.78.88 - *Ligne directe Commercial OM : 01.64.10.73.88* – Fax : 01.60.63.24.85
VoiP-H.323 : 80.13.8.11 — http://www.ges.fr — e-mail : info@ges.fr

G.E.S. OUEST : 31 avenue Mocrat - Centre commercial Mocrat, tél. : 02.41.75.91.37 **G.E.S. COTE D'AZUR :** 454 rue Jean Monet - B.P. 87 - 06212 Mandelieu Cedex, tél. : 04.93.49.35.00 **G.E.S. LYON :** 22 rue Tronchet, 69006 Lyon, tél. : 04.78.93.99.55 **G.E.S. NORD :** 9 rue de l'Alouette, 62690 Estrée-Cauchy, tél. : 03.21.48.09.30 Prix revendeurs et exportation. Garantie et service après-vente assurés par nos soins. Vente directe ou par correspondance aux particuliers et aux revendeurs. Nos prix peuvent varier sans préavis en fonction des cours monétaires internationaux. Les spécifications techniques peuvent être modifiées sans préavis des constructeurs.

LE SITE INTERNET DE LA SEMAINE

Connaissez-vous "HAM-LOG-WEB" le site de F5AGL ?



Station Radioamateur Française F5AGL

177 QSO dans le log F5AGL
Contrées DXCC : 57 contactées / 9 confirmées
Skype :

[Accueil]
[Logbook]
[Blog]
[Info QSL]
[Cartes QSL]
[Livre d'or]
[DXCC]
[F1AGL]
[F6KFN]
[FT5WH]
[Liens]

1949 visiteurs depuis le 04/11/2007

Dernière mise à jour : log F5AGL - 27/09/08

Les derniers articles dans le blog

FT5YI
Bilan DXCC...
HamLogWeb, disponible !!!
Islande - TF3ZA
Spietzberg - JW8DW

Derniers contacts dans le log F5AGL

DATE	HEURE	INDICATIF	BANDE	MODE	DXCC
09 2008					
26/09/2008	08:39	II2VEM	40M	LSB	Italy
26/09/2008	08:20	RA3RBL	17M	USB	European Russia
25/09/2008	18:17	I2VGW	40M	LSB	Italy
24/09/2008	19:39	5D0IPY	20M	USB	Morocco
23/09/2008	19:13	PT7ZT	17M	USB	Brazil
22/09/2008	20:09	MS0SCG	40M	LSB	Scotland
22/09/2008	19:54	MS0SCG	20M	USB	Scotland
21/09/2008	18:39	OH/DF9TM	20M	USB	Finland
21/09/2008	16:33	9H5DX	20M	USB	Malta
19/09/2008	13:02	YO3CEN	20M	USB	Romania
14/09/2008	17:31	TA3D	20M	USB	Turkey
14/09/2008	17:29	K1ZM	20M	USB	United States Of America

Dernières cartes QSL reçues

Il y a quelques jours, j'ai découvert le site de Gilles de F5AGL
La surprise à été de taille, un site clair, concis, utile et français.
Le principe est simple d'aspect, mettre en ligne son cahier de trafic et ses QSL.
Par contre, la programmation et la mise en place n'ont pas dû être évident, il faut souligner l'excellent travail et la dévotion de Gilles.

La page d'accueil vous propose plusieurs choix que nous allons explorer.

Les caractéristiques
Vous y trouverez la description des fonctionnabilités du logiciel HAM-LOG :
Mise en ligne en format ADIF
Gestion de plusieurs logs en ligne (idéal pour les expéditions, concours et indicatifs spéciaux)
Recherches multiples dans le log
Mise en ligne de collection de cartes QSL associées au log
Blog intégré (pour envoyer des infos, rester en contact avec des amis)
Bilan DXCC
Possibilité d'ajout de pages supplémentaires.
Forum et Chat (idéal quand il n'y a pas de propagation !)
Le tout est, selon l'auteur, largement configurable.

Rubrique téléchargement
Il suffit de remplir un formulaire et vous vous retrouvez dans cette rubrique où tout est clairement expliqué.

Rubrique installation
Une explication précise qui décrit pas à pas comment installer et configurer le logiciel, le tout dans une documentation téléchargeable (à garder sous la main).

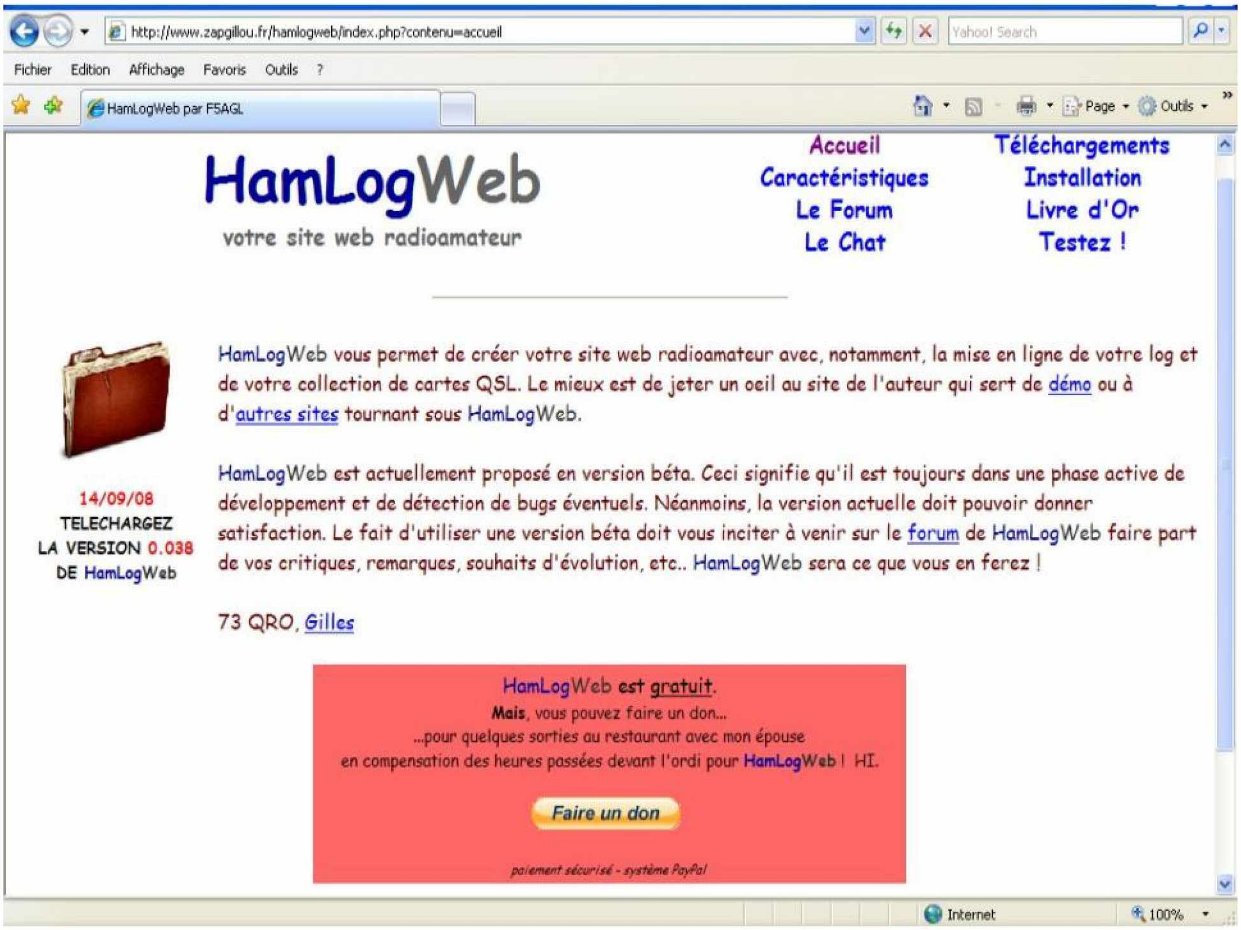
Le livre d'or
Un petit mot d'encouragement fait toujours plaisir et ne coûte rien.

Testeurs
Plusieurs O.M. satisfaits du résultat ont mis leurs sites à disposition. C'est là que l'on voit que le résultat est étonnant, chacun peut configurer à sa sauce.

Bref, sans trop entrer dans les détails, je vous encourage à aller visiter ce site. Le support Internet sera l'avenir de nos logs, de nos QSL... Pour cela, il suffit de voir l'expansion des sites tels que EQSL et autres.
HAM LOG est français et facile d'utilisation, pourquoi s'en priver ? Surtout quand vous avez plusieurs milliers (voire dizaines de milliers) de QSO à gérer.

http://www.zapgillou.fr/hamlogweb/

Bonne visite !
Vincent F5SLD



HamLogWeb vous permet de créer votre site web radioamateur avec, notamment, la mise en ligne de votre log et de votre collection de cartes QSL. Le mieux est de jeter un oeil au site de l'auteur qui sert de démo ou à d'autres sites tournant sous HamLogWeb.

HamLogWeb est actuellement proposé en version béta. Ceci signifie qu'il est toujours dans une phase active de développement et de détection de bugs éventuels. Néanmoins, la version actuelle doit pouvoir donner satisfaction. Le fait d'utiliser une version béta doit vous inciter à venir sur le forum de HamLogWeb faire part de vos critiques, remarques, souhaits d'évolution, etc.. HamLogWeb sera ce que vous en ferez !

73 QRO, Gilles

HamLogWeb **est** gratuit.
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Portable : 00 33 6 09 53 48 27/37
Mail : contact@smgdiffusion.com
Web : http://www.smgdiffusion.com

F5IRO

Les infos DX

7Q MALAWI – GI0IAS est 7Q7HB jusqu'au 1er novembre

A3 TONGA – K6HFA actif jusqu'au 11 octobre.

D2 ANGOLA – D2EB en SSB/CW, QSL via IZ3ETU en direct seulement ou LOTW.

E5 SUD COOK – N7OU est E51NOU à RAOTONGA uniquement cw jusqu'au 11 octobre qsl via N7OU.

FM MARTINIQUE – F5IRO Freddy sera FM/F5IRO jusqu'à fin janvier 2009, QSL via F5IRO

HF ILES SUD SHETLAND. SP3GVX sera HF0POL/LH QSL via SP3WVL.

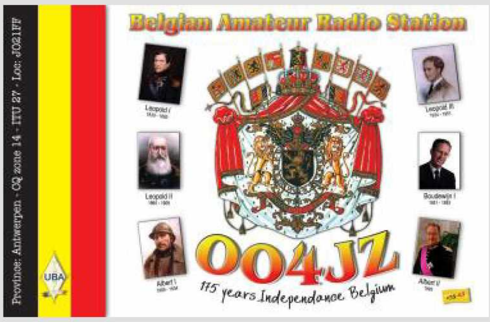
JX JAN MAYEN – LA9JKA sera JX9JKA jusqu'au 8 octobre.

KG4 GUANTANAMO – K4MIL est KG4S jusqu'au 7 octobre RTTY et un peu de SSB.

SV9 CRETE - Uli, DJ9XB sera J49XB jusqu'au 4 Octobre. QSLvia DJ9XB.

T30 OUEST KIRIBATI - Toshi, JA8BMK sera T30XX de Tarawa pour 10 jours. Activité du 160 au 6 mètres en CW/SSB/RTTY/PSK31. QSL via JA8BMK.

VR HONG KONG - Antonio,VR2PW est généralement QRV de l'île Lantau, IOTA AS-006, sur 20 m SSB après 10h30z. QSL via home call.


Belgian Amateur Radio Station
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UBA
OO4JZ
115 years Independance Belgium

Ca vient d'arriver dans ma boîte mail !

Le radio club F6KFH de Sarreguemines activera le moulin musée d' Eschviller
le 12 octobre 2008.
L' activté aura lieu sur la bande des 40 m.
QSP de F8DHN

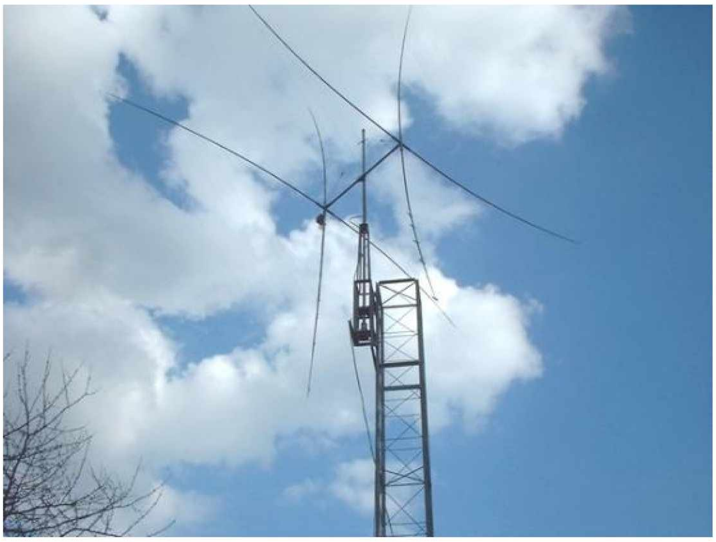
Voici un lien qui peut-être intéressant pour les QRPistes
http://www.qrparci.org/component/option,com_weblinks/catid,21/Itemid,23/
Un site avec mulitples liens de stations QRP
QSP de Thierry - ON3MAJ

Actuellement F4EGS est présent au Tadjikistan sous le call EY8/F4EGS.
QSP de F4FUC

L'O.M. de la semaine

F5AJG (59) - Un passionné d'antennes...

bonjour je suis **F5AJG** radioamateur depuis 1995 mais passionné par la radio depuis bien plus longtemps.
je m'appelle PASCAL DEVIGNES.
je suis né le10 juin 1966 a le LE NOUVION EN THIERACHE (02).
j'habite une une petite commune du département Nord (59) à coté de MAUBEUGE qui s'appelle : SAINT REMY DU NORD



La radio j'y suis venu il y a plus de 30 ans au début de la C.B. j'y ai appris la construction des antennes et c'est devenu ma passion !
J'aime construire des antennes en tous genres. En 1995 je me suis décidé à passer la licence F1.
Ensuite, en 1996 la F5. Ainsi de grands horizons s'ouvraient à moi par la fabrication des mes aériens
Je me suis aussi tout récemment occupé de l'organisation de l'indicatif spécial **TM0WPC** pour les championnats du monde de parachutisme au mois d'aout . Et je suis encore sur le traitement des QSL.
A ce propos, je remercie tous les O.M. qui nous ont contactés

Ma station :
Décamétriques FT920 YAESU & IC 706 ICOM
VHF/UHF TM 733 KENWOOD
Boites de couplage VECTRONICS HFT1500 et MFJ 941E
Les antennes sont de fabrication O.M. :
En HF une FD4 (windom)
une loop horizontale de 80m pour les 160m 80m 40m
une verticale 40m
une cubical quad 2els 5 bandes
En VHF/UHF une DK7ZB 8els 2m
une DK7ZB 4els 6m
une GP 1 COMET
(seule antenne commerciale !)
Les soft : pour le log et les modes digitaux : LOGGER32
pourla sstv : MMSSTV
Mon site Internet : **http://blogs.aol.fr/f5ajg/hamradio/**

73's à tous !
F5AJG - Pascal

@ Une visite s'impose !

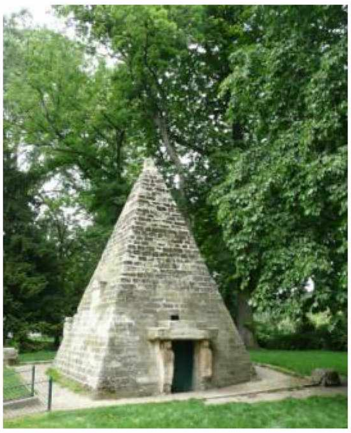
Le QRP ou le QRPP, vous connaissez sûrement. Mais êtes-vous sûr de tout savoir. Même si la propagation n'est plus au rendez-vous, les amateurs de ce mode ne manquent pas. Notamment l'ami F8ARR.
Son site est clair, intéressant et plein d'informations.

http://qrpfr.free.fr/

Les amateurs de VHF, UHF et SHF ne seront pas déçus par ce site (en anglais).
Cliquez sur "REAL TIME MAPS", choisissez votre bande et sur la carte de l'Europe vous pouvez cliquer sur un locator pour voir s'il y a des QSO. En cliquant dans la page d'accueil sur "propagation warnings by email" vous pouvez choisir de recevoir des alertes par courriel. Intéressant non ?

http://www.vhfdx.net/spots/

http://adref13.unblog.fr/boufigo/



LA PYRAMIDE DE MONCEAU - PARIS (75)

Le parc Monceau doit son origine à Philippe d'Orléans. Il était le cousin du roi et portait le titre de Duc de Chartres. En 1785, il devint Duc d'Orléans à la mort de son père. En 1769, il acheta une parcelle dans le village de "Mousseau" au Nord-Ouest de Paris. Il y fit construire un pavillon octogonal par l'architecte Colignon.

A partir de 1773, l'ingénieur Louis Carrogis dit Carmontelle fut chargé de créer sur cette parcelle un jardin réunissant tous les temps et tous les lieux. Ainsi furent construit un bois des tombeaux (dont fait partie la pyramide), un moulin à eau en ruines, un moulin à vent hollandais, un temple en marbre blanc, un obélisque, un minaret, une pyramide égyptienne, une naumachie, etc. Le site fut rapidement appelé "la folie de Chartres".

Philippe d'Orléans était Grand Maître du Grand Orient de France. Plusieurs des monuments construits sont donc d'inspiration maçonnique. Le pavillon servait d'ailleurs de lieu de réunion et son sous-sol était aménagé en centre d'initiation.

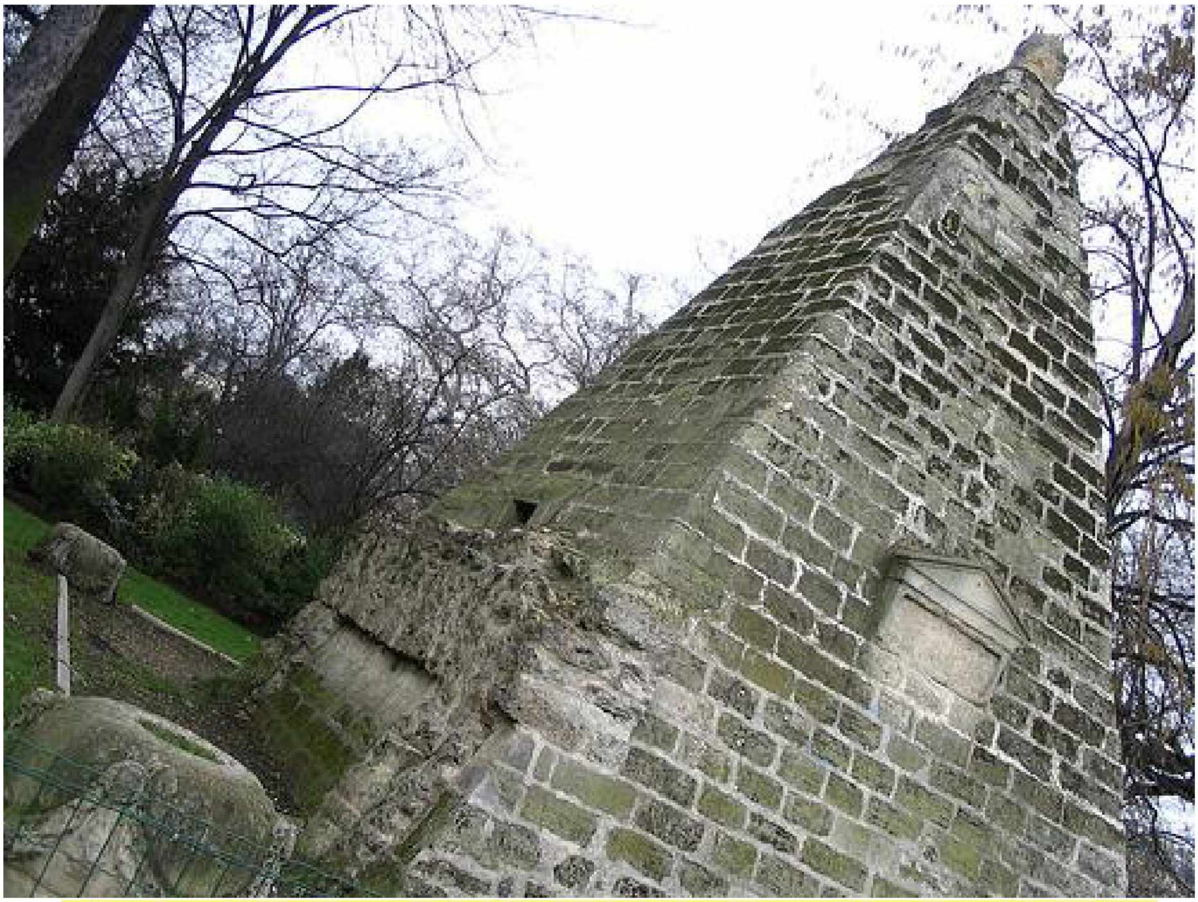
Le jardin fut réaménagé en 1783 par l'écossais Thomas Blaikie. Il réorganisa les allées et les plantations. Le parc comptait à l'époque une vingtaine d'hectares s'étendant plus au Sud et à l'Ouest. Calonne, ministre des Finances décida en 1785 d'entourer la ville de Paris d'une enceinte afin de contre carrer la contre-bande. Claude Nicolas Ledoux fut chargé de sa construction. Il fit construire le temple rond entouré de colonnes qui est visible au niveau de l'entrée principale du parc.

Grande allée, temple rond au fond

A la révolution, le parc fut confisqué et devint bien national. Il retourna à la famille d'Orléans à la restauration. Philippe d'Orléans malgré son engagement dans la révolution fut guillotiné le 6 novembre 1793.

A partir de cette date, le parc fut plus ou moins à l'abandon. La ville de Paris l'expropria en 1860 et en vendit la moitié à des promoteurs immobiliers. Le préfet Haussmann, lors du réaménagement de Paris, l'incorpora dans son ensemble de parc et de bois. Haussmann créa les bois de Boulogne et de Vincennes, le parc de Montsouris et le parc des Buttes Chaumont. Le parc Monceau fut remodelé sur 8,4 hectares. De cette période datent le sentrées monumentales avec les grilles en fer forgées et dorées.

La pyramide du parc Monceau fut donc construite entre 1769 et 1773 et n'a rien d'antique. Elle est le résultat du rêve d'un grand maître d'une loge maçonnique. La salle aménagée à sa base contenait à l'époque une statue de la déesse Isis. D'autres constructions d'inspiration maçonnique ont vu le jour au cours du 18éme siècle. Comme la pyramide de Tourves dans le Var ou la pyramide du "Désert de Retz" près de Chambourcy élevée par François Racine de Monville, ami du Duc d'Orléans. Une autre pyramide se trouve dans un jardin du village de Mauperthuis en Seine et Marne et une autre dans le parc de Wespelaer en Belgique.



Le parc Monceau est situé dans le 8 ème arrondissement de Paris.
Ligne 2 du métro station Monceau.

www . difona . de site en français info @ difona . de

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Infos supplémentaires Livrable de suite !

IC-7200 Le nouveau TX déca et 6m , pour un tarif inférieur à 1000€, réunit de façon convaincante des qualités de la technologie numérique avec une simplicité d'emploi et un dessin robuste. De ce fait il est censé d'être aussi utilisé à l'extérieur. Il possède des filtres FI numériques à réglages individuels, un accord Twin-Passband numérique, un filtre Notch manuel et un réducteur de bruit numérique.

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av2000 mais avec 6 plots.

Chacun € 18,00

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ZG-906 extrêmement stable pour les antennes déca et VHF/UHF.

€ 39,00

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Veuillez nous consulter.

Nouveautés :
les antennes STEPPIR et BUDDIPOLE.

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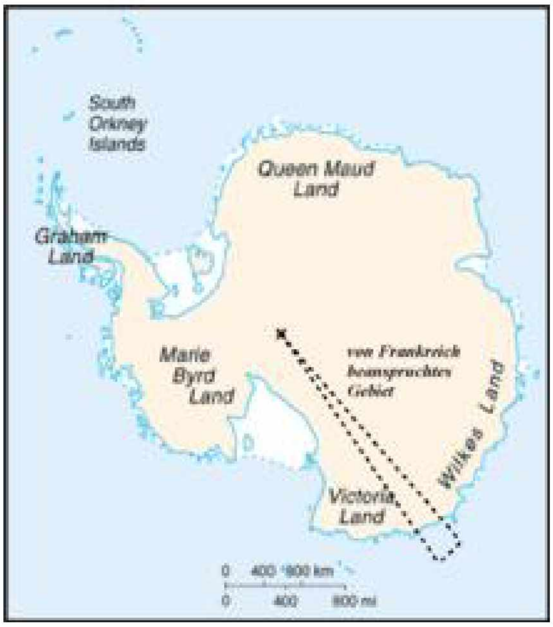
LE PARADIS BLANC

Nicolas de F4EGX sera actif depuis la terre Adélie entre mi-novembre et mi-décembre 2008.

Connaissez-vous ce paradis blanc ?



Le district de Terre Adélie est situé sur le continent antarctique et forme un secteur angulaire (432 000 km²) d'inlandsis compris entre le 136e et le 142e méridien de longitude Est. Il a pour sommet le pôle sud géographique, et pour base la portion de côte, voisine du cercle polaire antarctique, de 350 kilomètres de longueur baignée par la mer Dumont d'Urville. Le pôle sud magnétique, dont la position varie avec le champ magnétique terrestre, se trouve à proximité de la Terre Adélie.

CLIMAT :

Les températures moyennes à Dumont d'Urville, au niveau de la mer, sont en moyenne de -1 à + 7°C pendant l'été (janvier, février) et de - 15 à - 20°C pendant l'hiver austral (juillet, août).

HISTOIRE :

Le commandant de l'expédition antarctique française, Jules Dumont d'Urville, découvrit cette région en 1840 et il lui donna le prénom de sa femme.

En Antarctique, la souveraineté française sur la Terre Adélie s'exerce dans le contexte du Traité sur l'Antarctique signé à Washington en 1959 qui établit un « gel » des prétentions territoriales et affirmé la liberté de la recherche scientifique sur tout le continent. Elle doit donc être compatible avec les exigences du Traité qui a été complété en 1991 par le protocole de Madrid sur la protection de l'environnement et qui fait de ce continent « une réserve naturelle consacrée à la paix et à la science ».

Depuis 1959, il y a une occupation permanente des lieux.

De nombreuses études scientifiques sont réalisées en Terre Adélie, soit au niveau national, soit dans le cadre de collaborations internationales (avec la Russie et les États-Unis en particulier).

De plus la base Dumont d'Urville est reliée par convoi routier sur chenilles avec la nouvelle base antarctique Concordia implantée sur le plateau continental, à proximité du secteur de la Terre Adélie, et créée en collaboration avec l'Italie pour des études astronomiques (l'implantation de télescopes et radiotélescopes), géophysiques et climatologiques (notamment celle de la magnétosphère, étude de la haute atmosphère, du réchauffement climatique, et de la couche d'ozone), ou physique fondamentale (captage de particules de haute énergie)

(source Internet).

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UNE INTRODUCTION AUX MODES NUMERIQUES

Par F4FCE

Pour commencer cette rubrique sur les modes numérique je vous propose de mettre en place la liaison entre le PC et le tranceiver.
Des interfaces toutes faites sont vendues dans le commerce, j'ai fais le choix de ne pas en parler dans cet article. N'étant pas utilisateur de ces boites « magique » et ayant un porte-monnaie réduit.

Dans un premier temps nous allons voir la carte son, puis la liaison avec le tranceiver.

La carte son

Actuellement la plupart des logiciels utilisent la carte son comme interface son avec le transceiver. Il est donc important d'avoir une carte son de qualité., mais pas forcément haut de gamme. Je peux conseiller une "sound blaster" même si elle date de quelques années. Les cartes son d'autre marque peuvent fonctionner sous réserve de bonne compatibilité. Je parle en connaissance de cause, j'ai déjà eu des problèmes de décodage en APRS avec la carte son interne du PC. Parmi les cartes qui m'ont donné satisfaction je peux citer la Sound Blaster 128, La SB Live, l'AC 97 de mon PC portable IBM Thinkpad T23. On préfèrera un taux d'échantillonnage de 48 Khz ou 96 Khz pour les applications SDR. Pour du PSK, RTTY, SSTV une carte son 22 Khz suffit.
Pour information le DM780 exploite ma carte son SB128 à 8 Khz en mode PSK31.

Une fois notre carte son choisie, il faut l'installer dans le PC. Plusieurs écoles sont possibles :
Une seule carte son interne au PC (facile à réaliser)
Deux cartes son internes au PC. (possibilité de conflit entre les deux cartes, réservé aux OM expérimentés en informatique)
Deux cartes son, l'une interne au PC et l'autre externe sur port USB par exemple (assez facile a mettre en oeuvre).

L'avantage d'avoir deux cartes son est que l'une est disponible pour des applications du style lecteur de média, son windows ... et la deuxième sert pour les modes numériques.
On peut aussi mettre en place plusieurs cartes (une par transceiver) et choisir celle que l'on souhaite utiliser dans le logiciel de mode numérique. Par exemple une station HF et une VHF.

La liaison avec le transceiver

Il y a deux liaisons à réaliser, l'audio et la commutation TX/RX.
Je vous propose de commencer par la liaison audio.
Plusieurs montages existent mais l'idée commune qui se dégage est de réaliser une isolation galvanique par des transfos de type Téléphone 600ohms. Les résistances ou potentiomètres mis en place servent à adapter les niveaux de tension entre le PC et le Transceiver, suivant que l'on utilise la voie micro ou line u Phone.
Je vous conseille de vous referer à la notice de votre poste pour connaitre le niveau du signal.
Dans mon cas j'ai câblé tout simplement un transfo seul et utilisé les voies line in et line out de la carte son sur les TX suivants : TS-950SD, TS-2000, FT-900 et TenTec ORION II. J'ai aussi expérimenté la voie Micro en entrée carte son qui fonctionne aussi bien mais le réglage est plus délicat car rapidement trop fort. Le logiciel DM780 de HB9DRV permet de visualiser le niveau du signal.

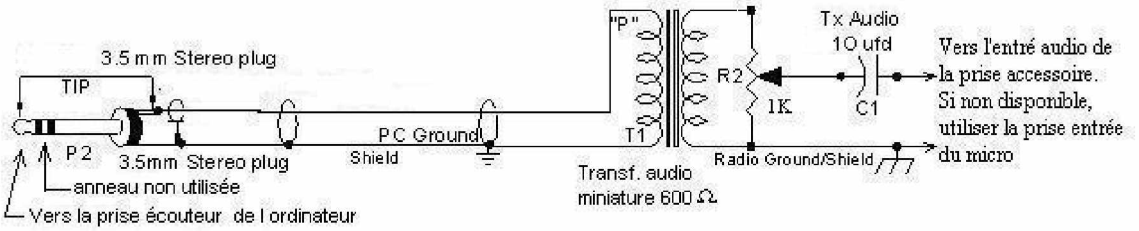
La seconde liaison est la commutation TX/RX. Plusieurs méthode existent :
Utilisation d'un port série (montage assez simple).
Utilisation du vox du TX (vérifier s'il commute l'entrée auxiliaire).
Utilistation d'un vox externe (montage un peu plus complexe).
Utilisation du logiciel de pilotage (vérifier s'il commute l'entrée auxiliaire).

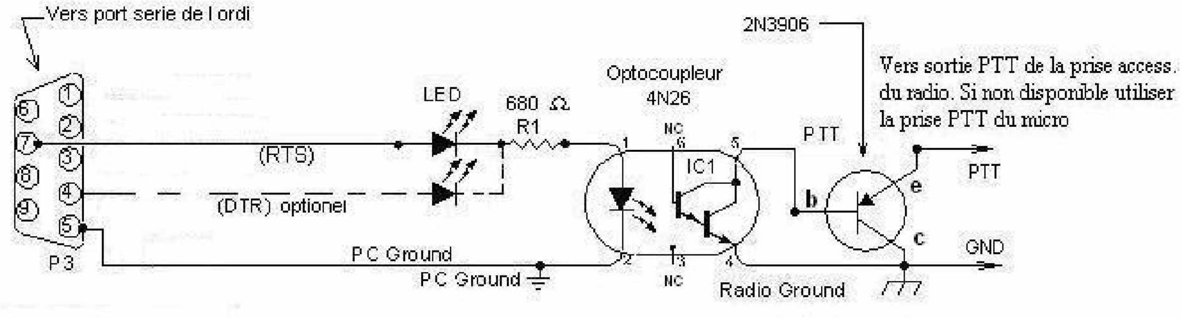
J'ai longtemps utilisé la commutation par le logiciel (HRD + DM780), le fonctionnement est plus que parfait sur le TS-950SD et FT-900. La chose se complique sur le TS-2000 et TenTec ORION II. En effet, sur le premier la seule solution pour commuter l'entrée audio ACC2 c'est de réaliser la commutation par le connecteur ACC2. Il est donc indispensable de commuter par un vox externe ou un port série.
Sur l'ORION II le choix entre micro ou/et entrée numérique se fait dans les menus. Mon logiciel HRD ne gérant pas la commutation TX/RX j'ai donc utilisé le port série du PC

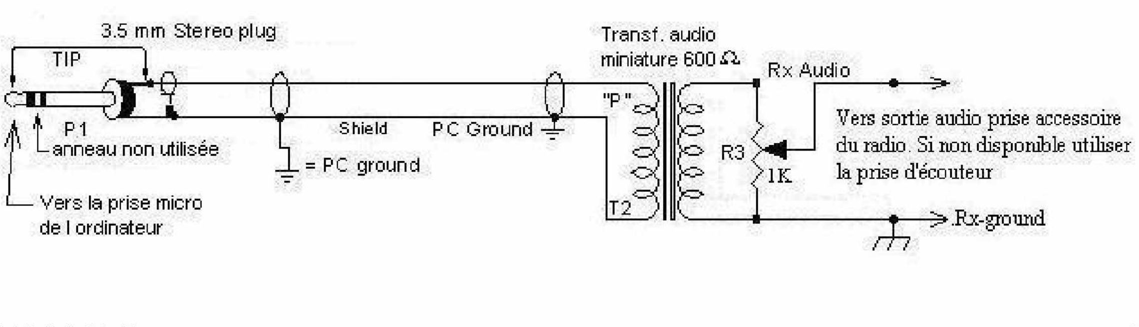
On trouvera une multitude de schémas sur internet ou au club. J'ai choisi le schéma sur le site de VE2GDA pour sa simplicité de réalisation sur plaque pastillée et la faible fourniture de composants de récupération dans le tiroir.
On y retrouve la fonction isolation galvanique audio et la gestion TX/RX isolé par Optocoupleur, ainsi qu'une adaptation des niveaux audios.
Je vous laisse le soin des recherches de schéma de vox externe, N'ayant pas retenu cette solution pour mon shack.

Une fois l'aspect matériel réalisé, il reste à installer un logiciel. Pour ma part j'utilise DM780 pour les modes PSK, RTTY et SSTV. Il fait aussi CW, DominoEx, Hell, MT63, Olivia et Throb.
Une description de ce logiciel fera sûrement l'objet d'autres articles.

Bon bricolage et bon début en mode numérique. **F4FCE, Pierre-Marie**


3.5 mm Stereo plug
TIP
P2
3.5mm Stereo plug
anneau non utilisée
Vers la prise écouteur de l ordinateur
Shield
PC Ground
"P"
T1
Transf. audio miniature 600 Ω
R2
1K
Tx Audio
10 ufd
C1
Radio Ground/Shield
Vers l'entré audio de la prise accessoire. Si non disponible, utiliser la prise entrée du micro


Vers port serie de l ordi
P3
(RTS)
(DTR) optionel
PC Ground
PC Ground
LED
680 Ω
R1
Optocoupleur
4N26
IC1
NC
NC
Radio Ground
2N3906
Vers sortie PTT de la prise access. du radio. Si non disponible utiliser la prise PTT du micro
PTT
b
e
c
PTT
GND


3.5 mm Stereo plug
TIP
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anneau non utilisée
Vers la prise micro de l ordinateur
Shield
PC Ground
= PC ground
Transf. audio miniature 600 Ω
"P"
T2
R3
1K
Rx Audio
Vers sortie audio prise accessoire du radio. Si non disponible utiliser la prise d'écouteur
Rx-ground

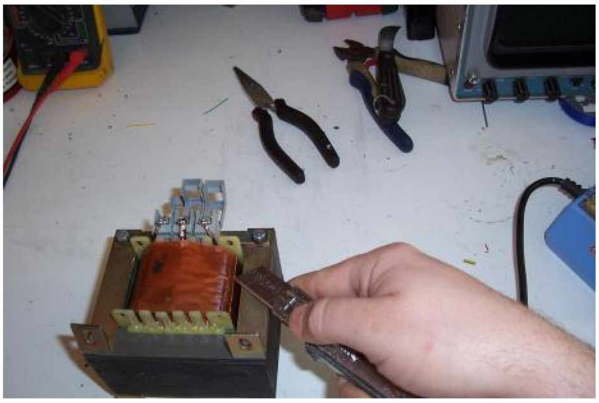
TOUR DE MAIN par F4CRM

Christian de F4CRM nous propose de modifier ou dépanner un transfo.
Un article tout en détails.

Dans une alimentation l'élément le plus important c'est le transformateur. L'ennui c'est que les tensions au secondaire sont souvent mal adaptées au besoin d'une installation radio.
Sans vouloir faire de la grande théorie nous allons voir comment modifier les enroulements pour obtenir la tension adaptée pour une alimentation de 13.8V.
J'ai eu la chance d'apprendre le bobinage industriel par un collègue de travail qui était bobineur de formation.
Un transformateur coûte cher, mais on peut avoir une bonne opportunité d'en récupérer même s'ils sont hors d'usage.

Il existe une multitude de transformateurs. Ils sont classés en 3 catégories : abaisseur, élévateur et isolement. Ils sont constitués de deux enroulements autour d'un circuit magnétique.
Le premier appelé enroulement primaire, c'est celui qui reçoit le 220V et l'autre enroulement secondaire c'est la sortie.

Le transformateur abaisseur c'est le plus utilisé. La tension d'entrée est plus grande que la tension de sortie. D'ailleurs le nombre de spires au primaire est plus important que celui du secondaire.
Le transformateur élévateur c'est le contraire, la tension d'entrée est plus petite que la tension de sortie.
Le transformateur d'isolement n'est pas vraiment un transformateur, sont utilisation est particulière. La tension d'entrée est identique à la tension de sortie moins les pertes. Il sert à isoler un circuit. On en trouve souvent dans les modems pour isoler le PC de la ligne PTT et dans les interfaces PC/radio pour protéger les cartes son.



Formules de rapport de transformation :
Up/Us ou Np/Ns ou Is/Ip
U= tension
P= primaire
S= secondaire
N= nombres de spires
I= intensité en Ampère

Cas particulier, il peut y avoir plusieurs enroulements aux secondaires. Certains transformateurs sont constitués de plusieurs enroulements secondaires. Par exemple il existe des transformateurs 24V qui sont constitué de 2 enroulements 12V couplés en série. Ce qui permet de pouvoir utiliser du 12V ou du 24V en fonction des besoins.

Pour nos applications radio les transfos 220/24V vont très bien sauf que 24V est une tension trop élevée. Il faut pour cela réduire la tension du secondaire entre 15 et 17V.

Attention également à ne pas faire de confusion sur les tensions. Un transformateur fonctionne avec des tensions alternatives. Celles-ci deviennent continu lorsqu'elles traversent un pont de diode. Les mesures de tensions sont à prendre en charge, c'est-à-dire lorsque le transformateur débite en intensité, il suffit d'utiliser un pont de diode pour redresser le courant puis d'utiliser des lampes de voiture ou de camion en 12 ou 24V selon besoin. Les tensions à vide ne veulent pas dire grand-chose et lorsque le transformateur est à pleine charge celle-ci peut chuter de plusieurs volts.

Pour l'intensité disponible il faut regarder les VA souvent inscrit sur le transformateur.

Pour faire simple 200VA peut donner 10A, 400VA =>20A, 600VA=> 30A environ en prenant en compte les pertes.

La formule c'est P=U.I

Ex : un transformateur 220 /24V 200VA pourra donner :

200VA/24V=8.33A au secondaire.

Sauf que nous allons le modifier en 15V environ. Ce qui donne :

200VA/15V=13.3A

Alors qu'en fait, avec les pertes dues au débobinage cela provoque une chute de tension et d'intensité et nous pourrons avoir ainsi 10A de façon sûre.

Alors attention ! Dés lors qu'on modifie les caractéristiques d'un transformateur il faut bien savoir que ses propriétés en seront aussi altérées.

Revenons a notre transfo 220/24V ~ pour connaître la tension filtrée et redressée au secondaire il y a une formule très simple :

Tension du secondaire X par 1.414= tension filtré et redressé disponible au secondaire.

(1.414 correspond à la racine carrée de 2).

Soit 24V X 1.414= 34V !!! Ça fait énorme non ? Le régulateur de tension aura trop à dissiper pour revenir a une tension de 13.8V et les transistors ballast vont trop chauffer.

Débobinons quelques tours de fil au secondaire pour faire chuter cette tension. Procédons par étape pour ne pas en couper trop. Prenez une mesure avant de commencer à débobiner. Enlevez une seule spire, puis reprenez la tension. L'écart entre les deux mesures vous indiquera combien retirer de spires pour obtenir la bonne tension. Gardez de la marge, la tension chute de façon non linéaire.

Dans le cas d'un « dépannage » il faut savoir si c'est le primaire ou le secondaire qui est défectueux. Avec un ohm-mètre rien de plus simple. Ensuite il faudra démonter l'enroulement coupé pour le refaire.

Il est possible de réparer un enroulement, encore que personnellement je n'aime pas trop cette solution car je la trouve peu fiable. Et pire encore pour des intensités de plus de dix ampères je vous conseille de changer la totalité de l'enroulement.

C'est la que les choses se compliquent un peu.

Deux solutions

- La première : il est possible de refaire l'enroulement sans démonter l'entrefer.
- La deuxième : démonter l'entrefer. (A éviter autant que possible)

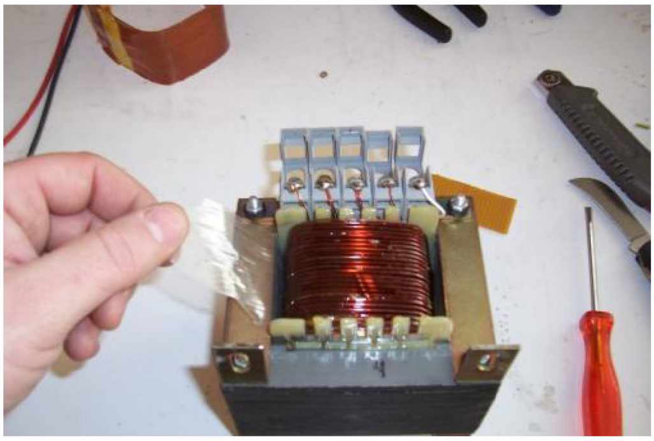
C'est beaucoup de travail mais c'est très instructif.

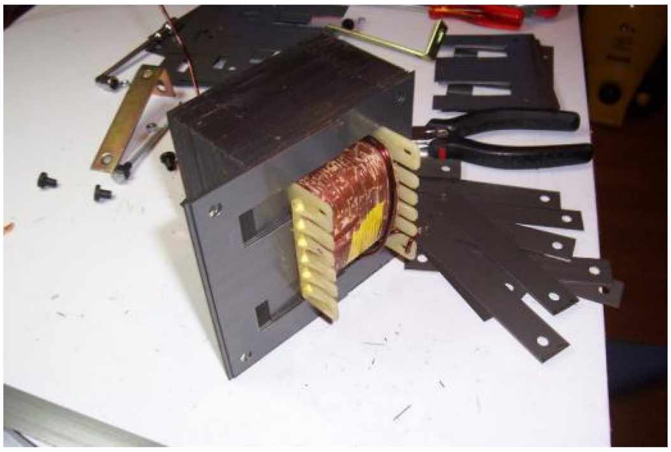
Une fois la boulonnerie enlevée, il faudra enlever les tôles qui constituent l'entrefer. Celles-ci sont rentrées de force a la presse, inutile de ménager vos forces il faut y aller de bon cœur.

Après on atteint plus facilement le bobinage. Au début il y a plusieurs couches de papier isolant. Il faut le défaire proprement parce qu'il sera à remonter. Les premiers fils que vous voyez sont le secondaire, le primaire est dessous séparé par une autre couche de papier ou plastique spécial. En général, le diamètre du fil du secondaire et plus gros que celui du primaire. Le fil utilisé est recouvert de vernis isolant il est donc a manipuler avec précaution sans l'endommager.

Pour refaire la bobine il faudra utiliser du fil de même section également vernis. Prenez la même longueur voir un peu plus courte de 50cm, puisqu'il faut obtenir une tension moindre. Si vous n'utilisez pas la même section de fil la puissance au secondaire ne sera plus la même.
Faites des spires jointive et bien serrer. C'est très important de faire un travail soigné. Cependant il y a une astuce qui facilite bien la vie s'il n'est pas nécessaire d'ôter l'entrefer. Sous condition d'une section de fil pas trop grosse, il faut réaliser un fuseau en carton rigide. Avec un carton de 12cm de long environs pas 2 cm de large, muni d'une encoche a chaque extrémité il sera facile d'enrouler le fil de cuivre du bobinage a mesure du passage du fuseau entre la bobine et l'entrefer. Pour le bobinage il suffit de refaire les mêmes mouvements mais a l'envers.
Si votre transformateur est équipé de plusieurs enroulements au secondaire il est possible d'enlever ceux qui sont inutiles. Mais si vous avez deux enroulements identiques comme cité en exemple plus haut il est possible des les coupler en parallèle afin de disposer de deux fois plus d'intensité. Pour cela il est très important de les mettre en phase pour ceux qui ne connaissent pas, je reviendrais là-dessus avec plus de précisions. Il faut aussi apporter les mêmes modifications sur les deux enroulements. Il est très important qu'ils soient absolument identiques. C'est-à-dire que si vous avez enlevé quelques spires sur l'un pour avoir une certaine tension il faut faire pareil sur le deuxième.

Pour la mise en phase des enroulements il y a une astuce pratique. Équipez vous d'un tourne vis détecteur de phase, lorsque le transformateur est sous tension vous mettez le tournevis au contact de chacune des sorties. Pour deux enroulement vous aurez 4 fils ; il doit y en avoir 2 qui font allumer le détecteur de phase. Et bien, il suffit de connecter ses deux fils ensembles et les deux autres entres eux et voila vos enroulements sont couplés en parallèle et en phase !
Attention à ne mettre le transformateur sous tension qu'une fois l'entrefer remonté.





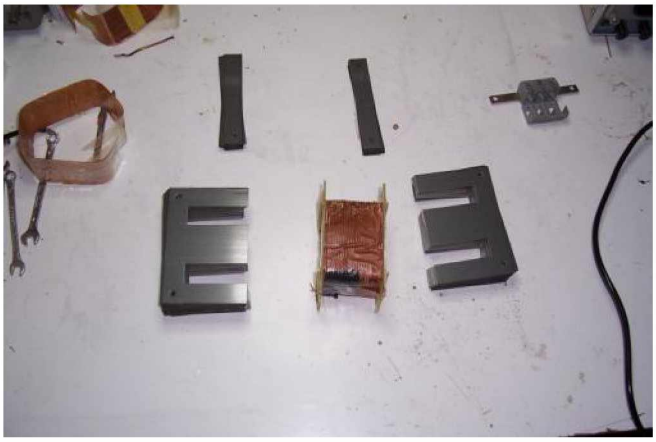
Enfin une fois les bobinages reconstitués, il faut remonter les tôles d'acier qui constitue le circuit magnétique. Au début c'est facile mais il faut bien respecter l'ordre. Par contre, les dernières sont beaucoup difficiles a remettre en place. Aidez vous d'un étau ou de serre-joint.

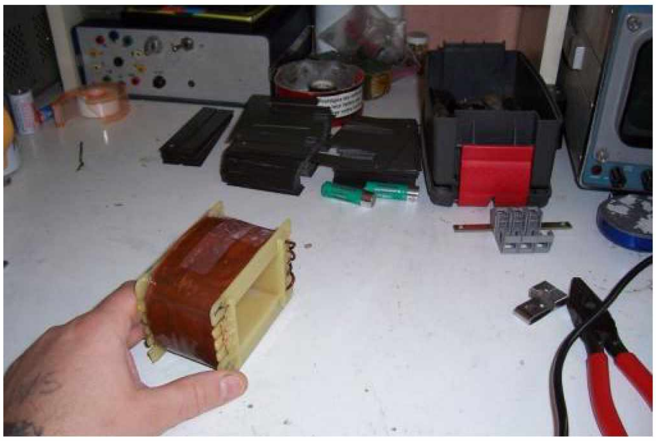
Ensuite reste à contrôler les tensions. Normalement il ne devrait pas y avoir de ronflement si c'est le cas resserrez les tôles de l'entrefer. Contrôlez l'échauffement à vide et en charge mais attention où vous mettez les doigts. Si vous remarquez un échauffement anormal ou un gros ronflement c'est qu'il y a quelque chose qui ne vas pas et il faudra tout revérifier. Surtout s'il n'y a pas de court circuit entre les spires a cause du vernis isolant qui serait abîmé…

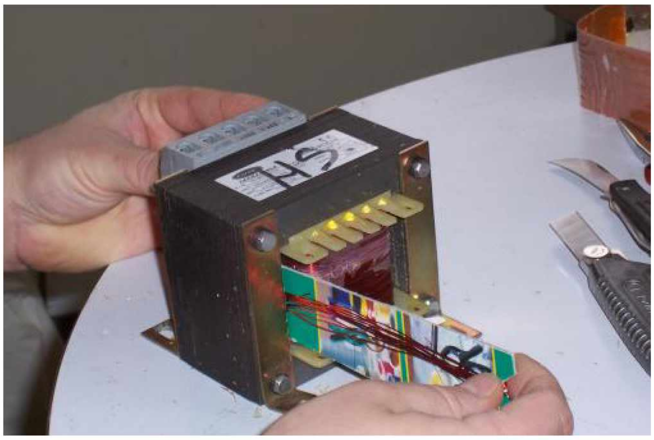
Pour finir je voudrais apporter une précision sur les transformateurs toriques. Ceux-ci sont particuliers et si vous les débobinez, vous aller modifier le circuit magnétique. Ce qui va provoquer une oscillation résiduelle sur l'électronique (Ballast et régulation). A coup sûr vous aurez de gros problèmes. Évitez de les modifier, j'ai rencontré plusieurs cas difficiles où il a été impossible de résoudre ce souci sauf en changeant de transformateur malgré des tensions parfaitement adaptées.

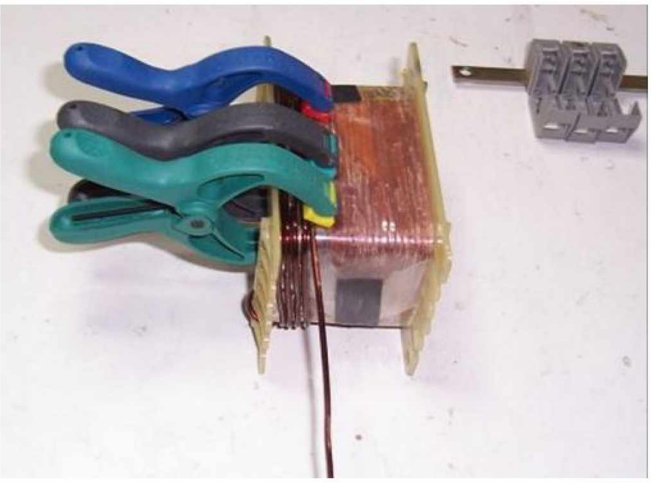
Nous voila donc avec un superbe transfo ! Reste a monter une alimentation régulée et stabilisée, ce qui fera l'objet d'une prochaine description. Soyez très prudent lorsque vous travaillez sous tension.

Bon bobinage !









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F6HQY

Une Antenne entre les dents

Bernie de F6HQY nous propose sur un ton comique et incisif, une nouvelle concernant notre monde radioamateur. A prendre au second degré, cette nouvelle en plusieurs parties s'intitule :

CHATEAU FOIREUX

Toute ressemblance avec des personnages existant ou ayant existé est fortuite et involontaire de l'auteur.

Comme tous les premiers vendredis de chaque mois, les radioamateurs du département convergèrent vers le siège du radio club sis 2 bis avenue du Général Kifuit-Desburnes.

Jacques, le président local du REFU, attendit vingt et une heures pétantes pour ouvrir la réunion. Il aimait à être ponctuel car, si avant l'heure, c'est pas l'heure, après l'heure ce n'est pas l'heure non plus. Un moment, Jacques se demanda s'il n'allait pas accorder un délai de quelques minutes supplémentaire vu que l'assistance était pour le moins clairsemée. Qu'on en juge d'ailleurs puisque étaient présents F7BOF, Robert, F7TU André, F7WMU Cédric (dans cette histoire, et afin de couper court à toute comparaison, les indicatifs seront tous des F7, les séries W à Z correspondant aux F0, les séries A à M correspondant au F5/6/8 et les séries P à U aux F1/4) et le président lui même, alias F7ATB.

Avant de parler, Jacques parcouru du regard le petit local situé dans le sous-sol de la Maison des Jeunes mis à disposition par la municipalité. Un coin pour les réunions avec une table formée de deux tréteaux et une plaque de contreplaqué marine, un coin pour le shack composé d'un FT102 et d'un IC706 avec son alimentation stabilisée, et le coin labo composé d'un vieil oscilloscope en rade et d'un fer à souder. Par terre, un carton avec tout un tas de vieux composants dont quelques anciens OM s'étaient débarrassés sous couvert de don à la communauté : c'était plus pratique que d'aller à la déchetterie. Dehors, fixées sur un mur, une verticale pour le 144 et une 5BDQ pour le déca. Bien sûr, pas de connexion internet, il n'y avait d'ailleurs pas de ligne téléphonique.

Le président ouvrit la réunion :

- Bon, les gars, je vais commencer par quelques informations nationales. Alors... Jacques se mit à trifouiller des papiers, en fait, le dernier bulletin du REFU qu'il avait imprimé chez lui.

- Oui, bon... A vrai dire, pas grand-chose. Quelques infos sur les stations DX mais ça n'intéresse personne ici. Côté administration de tutelle, rien. Pas de contacts pour l'instant... Pas grand-chose d'autre...Ha ! Si, le salon d'Auxerre qui se tiendra en Octobre.
- Ça existe encore ce truc ?
- Hé oui Robert... Par contre, ils ont l'air d'avoir du mal à trouver des exposants et font un appel au peuple. A ce propos, André, tu fabriques toujours du miel ?
- Oui, un peu...
- Tu sais que tu peux avoir un stand à Hamexpo ? Avec une réduction de 50% pour la location ?
- Ha bon... Ceci dit, je ne fais que cinquante pots à chaque récolte et j'en ai déjà filé la moitié aux copains. Alors, un stand avec 25 pots de miel, ça ne va pas le faire...
- Faudrait demander à Lucien, il vend des tracteurs... Il va l'occuper, lui, le hall de HAMEXPO avec ses engins.
T'es con Robert...C'est sérieux cette affaire.

La fine équipe rigola un bon coup pendant que Jacques remettait les informations du REFU dans sa sacoche. Cédric sortit alors de son sac une bouteille de cidre et des gobelets en plastique en disant :
- C'est mon père qui le fait, j'ai pensé qu'on pourrait en boire un verre pendant la réunion ?
- Excellente idée WMU, ça c'est un radioamateur qui connaît les traditions !

Ils se mirent à goûter le cidre tout en discutant du programme télé de la veille, ce qui n'était pas trop du goût de Jacques qui fît, après avoir fini son godet :
- Bon, les gars, cette section roupille depuis des années et il va falloir faire quelque chose,je sais pas moi, une activité, un truc quelconque histoire de montrer à Tours qu'on est pas morts !
- Kesse tu veux qu'on fasse ? Tu as vu le nombre que nous sommes ? Et le matos dont on dispose ? Des fois, je me dis que nous ferions mieux de dissoudre la section...Parcequ'à part rater le feuilleton à la télé, je ne vois pas tellement l'intérêt de ces réunions.
- Tu es pessimiste Robert... Mais tu n'as pas complètement tort. Bon, quand je dis faire un truc, je ne parle pas d'envoyer une fusée sur la lune, mais un petit truc qui ferait parler de nous... André, Cédric, vous avez bien une idée ? Cédric, toi qui es un jeune ?...

Ce statut de « jeune » commençait à agacer Cédric qui se demandait de plus en plus souvent ce qu'il faisait dans cette galère. Que n'avait-il pas déjà entendu ? « Toi qu'est jeune, tu passeras me chercher ». « Toi qu'est jeune, tu va bien venir m'aider à remonter mon antenne ». « Toi qu'est jeune, tu pourrais amener des filles ». Etc... Voilà maintenant qu'on lui demandait d'avoir des idées !
Il se tritura un moment les méninges, il devait bien y avoir quelque chose à faire... Il eût enfin un sourire :
- Il y a peut être un truc...
Les trois autres le regardaient fixement pendant que Jacques faisait :
- Un truc ? Quel truc ? Accouche, merde !
- Et si on activait un château ?...

A SUIVRE...

CHAMPIONNAT DU MONDE RADIOAMATEUR

Les 25 et 26 octobre 2008 Espace FERRAUD

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Expositions diverses radio
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CLUB RADIOAMATEUR VIENNE ET GLANE
REF 87
F6CPI

Chînons sur la toile

Pour ceux qui n'ont pas pû se rendre au salon radioamateur & informatique de la Louvière (Belgique) le 28 septembre dernier. F6CDX propose sur le site Youtube (c) un petit film sur cette manifestation.
A découvrir en famille en prenant soin d'éloigner les enfants !

http://www.youtube.com/watch?v=x-w5dzb_lPc

La baisse des prix dans le secteur de l'accès à Internet par satellite se confirme. Deux semaines après son concurrent Numéo, la société Sat2way ajoute, ce mercredi 1er octobre 2008, un forfait d'entrée de gamme à son catalogue, permettant de bénéficier d'Internet par satellite pour 29,90 euros par mois. En franchissant définitivement la barre symbolique des 30 euros mensuels, l'accès par satellite devient donc enfin une alternative réaliste pour les foyers non éligibles à l'ADSL.
Source : Yahoo

Le service HD trafic de TomTom en France avant 2009
Mobinaute.com a pu obtenir plus d'informations concernant la disponibilité du service info-trafic par GSM de TomTom dans l'hexagone. Selon un représentant français de la firme, les premiers terminaux GPS autonomes disposant de la fonction HD Trafic, GO 740 Live et GO 940 Live, seront disponibles en France à partir de la fin du mois de novembre, plus tôt que prévu, date à laquelle TomTom prévoit une couverture de 70% de la France métropolitaine. De plus, 90% du territoire devrait être couvert d'ici Noël, précise la firme.
Source : Zone numérique

Plus de la moitié des foyers français reçoivent désormais la télévision numérique sur au moins un poste, annonce le Conseil supérieur de l'audiovisuel.
Au premier semestre, 57,8% des foyers équipés de téléviseurs disposaient au moins d'un accès numérique - soit 14,6 millions - contre 48,0% au second semestre 2007, précise le CSA dans une présentation d'une étude. Ils sont 29,9% à avoir un accès numérique sur tous leurs postes contre 24,7% six mois plus tôt.
Le taux d'équipement des foyers en adaptateurs TNT a fait un point de 15,6 points en six mois à 31,7%, suivi par le satellite numérique sur abonnement (14,6%), l'ADSL (13,2%) et le câble numérique sur abonnement (6,0%).
A la fin mars, le taux de couverture de la télévision numérique terrestre (TNT) atteignait en moyenne 83,3% de la population contre 71,4% fin septembre 2007.
Il ne restait plus que 29,1% des foyers à disposer d'un accès hertzien analogique exclusif au premier semestre alors que la proportion était de 42,7% un an plus tôt.
Le basculement au tout numérique est prévu fin 2011 en France.
Source : Yahoo Reuters, Cyril Altmeyer,

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  * Par voie logicielle

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....
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....
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0908_HEIL

AGENDA

L'UBA Section KSD de Koksijde organise sa **Brocante** le **19 Octobre** 2008 au centre culturel " de Trounke " Dorp , 8630 Houtem (Veurne, Belgique) - Portes ouvertes à 09h30.
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Le samedi **18 octobre** prochain, notre ami Jean F6AOD, organise comme chaque année, sa **brocante TSF**, sur le parking de l'Hôtel Campanile, situé au 119 boulevard Robert Schuman, 93 - LIVRY-GARGAN. L'entrée est gratuite, alors venez nombreux... Bien cordialement, Le REF93

Brocante Radioamateur Traditionnelle du Brabant.
Dimanche 09 novembre 2008 à Evere (Belgique)
Organisée par la section UBA-RCB et le radio-club de Bruxelles ASBL dans ses locaux de l'Athénée royal, rue C. Permeke à Evere. A 500 mètres du magasin Carrefour (EX-GB) d'Evere.
Ouverture aux exposants à partir de 9h00. Visiteurs de 10h00 à 16h00.
Accès facile aux salles pour les exposants avec plus de 100 tables à disposition. un parking gratuit important est réservé aux exposants et aux visiteurs.
Inscription et réservation : ON4LW, Denis, on4lw@uba.be
ou ON4AY, Alex, on4ayl@skynet.be

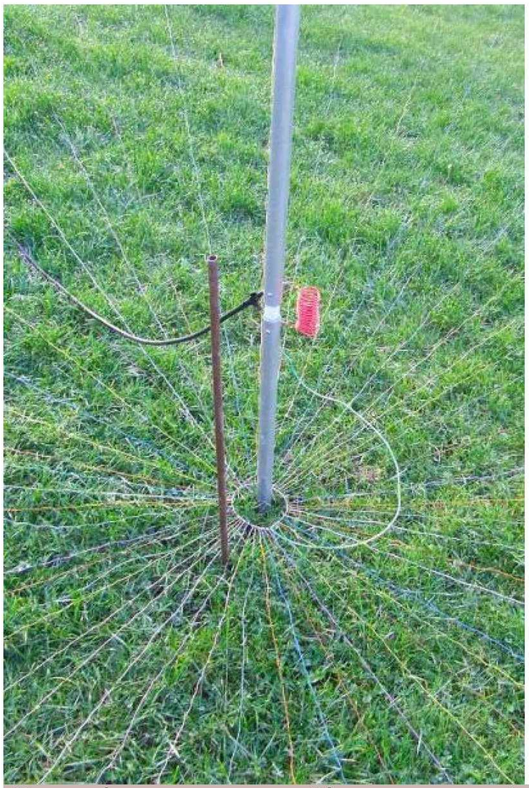
Brocante de F6KGC le samedi 11 octobre 2008
Le radio-club de Pierrefeu du Var, F6KGC, organise le samedi 11 octobre 2008 une journée Brocante Exposition à l'Espace Bouchonnerie à Pierrefeu du Var (83). Les tables et espaces, mis gracieusement à la disposition des OM.
Merci de retenir auprès de F1SMU, Président de F6KGC, au 04 94 66 00 74, ou par mail à :
f6kgc@yahoo.fr.
73 du secrétaire du Club, F1AYO

Brocante et bourse d'échange radioamateur à Mauprévoir (86) le 19 octobre.
Dans le cadre de ses activités, le radio -club de Neuville et du Haut -Poitou, F5KFL organise une journée Brocante et Bourses d'échange le Dimanche 19 Octobre 2008 à la salle des fêtes de Mauprévoir (sud Vienne). Apportez votre pique-nique (tables disponibles à l'intérieur) et n'oubliez pas vos couverts. Buvette (croissants, café, boissons). Au cours de l'après-midi, initiation à une course de radiogoniométrie. Pour les personnes intéressées, possibilité de balade dans le village (fours à chaux, château).
Vous êtes intéressés vous avez du matériel à vendre ou à échanger, nous vous invitons dès maintenant à réserver votre emplacement, attribué à titre gratuit à tout participant.
Réservation par email à f8eou@neuf.fr ou f4aqw@cerfrance.fr
Venez nombreux nous rendre visite pour dénicher l'objet manquant à votre station
73 à toutes et à tous et au 19 octobre pour le "visu" !
F8EOU Michèle et toute l'équipe radioactive.

COMIC'S HAM

La rubrique détente

1ère station QRV en EME Mobile !



Parmis tous ces radians, un seul n'est pas branché.
Sauras-tu le trouver ?

Un radioamateur chez les Ch'tis...
-20, -30° l'hiver !

Une déco tuning pour
votre antenne du mobile ?

La Semaine prochaine ...

F4URX, Clotaire vous proposera la réalistation d□un mât télescopique pour moins de... 350 □

MEETING AERIEN 2008
PRESENTE PAR L'ADRASEC 42

A découvrir : rubrique infotruc par ON3MAJ

INFO DE DERNIERE MINUTE :
Nous avons le plaisir de vous annoncer que le magazine "ondes magazine" n'est pas mort.
Des études sont en cours pour un retour prochain. Espèrons qu'il le sera bientôt !

ERRATUM

Dans le premier numéro, dans le reportage sur le salon de la Louvière, nous avons omis de vous informer que "ondes magazine" et que la Société "Inter technologies" étaient présents.
Nous prions ces sociétés ainsi qu'aux lecteurs de nous excuser pour cet oubli impardonnable.

HAM-MAG

Le 1er E-magazine hebdo pour radioamateurs, amateurs radio, SWL...

ADRASEC 42
Au meeting aerien de roanne

Rubrique SWL par F14368

L'O.M. de la semaine
F5OZK, Fred

NUMERO 3
GRATUIT

13 OCTOBRE 2008
http://ham.france.free.fr

EDITORIAL

Cher abonné bonjour,

Après le salon HAMEXPO, j'ai vécu la semaine marathon. La mise en page du magazine plus sa promotion auprès des revendeurs rendent les journées très courtes.
Vous ne trouverez pas d'article sur HAMEXPO 2008 car déjà bon nombre de sites ont publié les photos et commentaires sans compter le bilan qui se trouvera dans le prochain radio-REF.
Certains d'entre-vous demandent plus d'articles techniques, demandent à traiter tel ou tel sujet, et nous sommes ouverts à tout. Le défi est de tous vous contenter, mais il ne faut oublier qu'il y a quatre parutions par mois, ce qui laisse de la place pour tout le monde et pour tous les goûts. Comme toujours, la participation est importante et nous publierons au fur et à mesure les sujets que nous avons reçus. Nous sommes limités à une trentaine de pages par semaine, ne l'oubliez pas.

Comme je l'avais déjà annoncé, j'ai commençé à démarcher les revendeurs.
La majorité a soit répondu négativement, soit n'a pas répondu du tout.
A ce jour, seuls 2 revendeurs français accepteraient de participer.
Il s'agit de SARDIF et de BATIMA que je remerçie vivement.
Pout l'instant et jusqu'à nouvel ordre, nous ne faisons pas payer les publicités que vous trouverez dans ce magazine et sur le site Internet.

Je remerçie également tous les O.M. qui ont fait un don sur le site d'HAM-MAG, geste d'autant plus noble que certains souhaitent rester anonymes, et je suis conscient que ce n'est pas évident de donner quelques Euros pendant cette période de crise et d'incertitudes.
Ces dons sont sur un compte paypal créé à l'occasion et ne serviront qu'à l'amélioration de votre magazine.

J'ai aussi appris une bonne nouvelle, ondes magazine sera bientôt de retour. Il semblerait qu'il sera distribué en format électronique (en téléchargement) et payant (à partir du 20 octobre) sous le nom "radioamateur-magazine". Il est logique de payer un magazine réalisé par des professionnels et dont la qualité sera sûrement meilleure qu'HAM-MAG, simple "fanzine" réalisé par des amateurs.
Plus d'infos sur : http://www.radioamateur-magazine.fr

Car la raison d'exister de notre magazine, c'est qu'il n'y a plus de publications distribuées (sauf Radio-REF, mais c'est un magazine associatif réservé aux membres) sur le marché français actuellement, mais surtout le plaisir et la volonté de s'investir dans une activité à laquelle on croit.

Comme disent nos amis anglais... Wait and see !

Bonne lecture et cordiales 73 !
Vincent FAUCHEUX, F5SLD
ham.france@free.fr

HAM-MAG

N°3

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Remerciements à **F14368, F1GIL, F5OZK, F4FUC, F5DBC, F5IRO, F6DGU, F4CRM, F4FCE, F4URX, F6BPO, F6EJU, F6HQY, ON3MAJ, ON4KEP, HB9DVD, HB9HFL, Jérôme**.

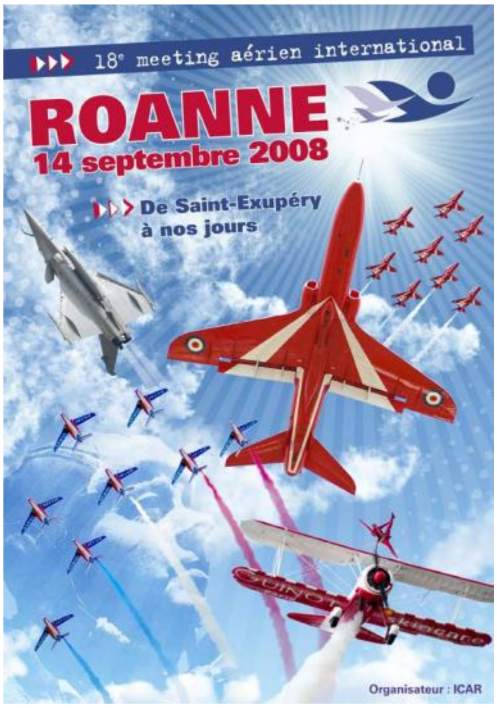
Merci aux différents annonceurs qui nous accordent leur confiance et à tous les O.M. qui nous ont envoyé des messages de soutien. Pardon à ceux que j'aurais oubliés...

Ce magazine ne demande qu'à s'améliorer et s'étoffer. N'hésitez pas à nous envoyer vos infos, vos avis et vos suggestions.
Mail : ham.france@free.fr

Pour garder ce magazine en distribution gratuite, nous aurons besoin d'articles et surtout d'un grand nombre d'abonnés (crédibilité vis à vis des annonceurs).
C'est pourquoi nous incitons nos lecteurs à ne pas copier et envoyer cette revue à leurs amis mais plutôt les inviter à s'abonner. C'est gratuit et sans publicité intempestive.
N'oubliez pas que ce magazine a été réalisé par **des bénévoles** au détriment de leurs heures de loisirs et de trafic.

L'ADRASEC 42 a assisté au meeting aérien de Roanne le 14 septembre 2008

Envolons-nous avec eux…


18e meeting aérien international
ROANNE
14 septembre 2008
De Saint-Exupéry à nos jours
Organisateur : ICAR

Les organisateurs du meeting, nous ont gentiment convié à participer à cette 18ème édition.
Chaque année, un public départemental, régional, national, voir même international vient en nombre.
Cette année encore, le spectacle était largement à la hauteur de l'événement !

Voir le programme http://www.meeting-roanne.net

L ' ADRASEC 42 était parmi les exposants et les visiteurs ont été nombreux à venir découvrir nos activités. Pilotes et non initiés ont été agréablement surpris de voir ce que des radio- amateurs pouvaient leur apporter en cas d'accident.

Samedi 13 septembre :
8h00, Jean-Louis (**F0FEG**), Pascal (**F4DYE**) + son fils **Maxence** et Jean-Pierre(**F0EXF**) se présentent sur les lieux avec un regard sur le ciel très chargé.

Nous mettons en place le stand où nous avons présenté :

- Des postes récents, mais aussi des anciens
- Des antennes 121.500 Mhz pour la recherche de balises
- Une balise de détresse
- Une écoute de la fréquence utilisée par la tour de contrôle de Roanne
- Une démonstration d'APRS
- Une vidéo en boucle présentant les activités de notre section.
- Une collection unique de QSL très anciennes

10h00, le public commence à arriver et très vite nous répondons à nos premiers interlocuteurs. Des anciens écouteurs (surpris de savoir que les radioamateurs étaient toujours en activité), des pilotes (surpris de découvrir que les radioamateurs étaient capables de les secourir), des passionnés d'aviation qui, en général ont semble-ils passé un moment enrichissant en notre compagnie.

Les premiers avions commencent leurs démonstrations quand un gros orage s'est mis à tomber. La grêle, puis une pluie abondante obligent le public à venir se réfugier sous les hangars. Nous sommes alors encore plus sollicités et ce, pour notre plus grand plaisir.

Les organisateurs eux aussi nous font l'honneur de venir échanger quelques paroles avec nous.

Vers 18h30 environ, après le retour d'un ciel plus clément, les avions reprennent leurs vols de démonstration, car le spectacle est pour demain …

Dimanche 14 septembre

8h00, Jean-Louis (**F0FEG**), Pascal (**F4DYE**) + son fils **Maxence** et Daniel (**F1MZL**) reprennent du service alors que Jean-Pierre (F0EXF) était non loin de là avec la Gendarmerie Nationale.

La météo avait annoncé un ciel dégagé pour cette grande journée de meeting et ce fut en effet le cas.

Les premiers rayons de soleil voient arriver un public fidèle et surtout des gens venant de toute la France, mais aussi de l'étranger.

A ne pas en douter, ce meeting aérien international est vraiment un rendez-vous incontournable pour tous les passionnés d'aviation.
Petits et grands sont surpris par tant d'avions exposés. Ceux qui ont le plus de succès, sont ceux de la patrouille de France et le Rafale de la Marine (semble-t-il présenté pour la première fois sur ce meeting).

12h00
C'est le début d'un magnifique ballet dans le ciel. Des scènes de combats, de vols de précision, etc. se succèdent devant un public conquit.
Le spectacle durera ainsi jusqu'à 18h30.
Pendant ce temps, nos représentants n'en finissent pas de donner des explications à tous ceux qui viennent en nombre sur notre stand.
Certains radioamateurs, du roannais, de la région stéphanoise, du lyonnais et de la région parisienne, nous font le plaisir de venir nous saluer.
Il est près de 18h00 et voilà le clou du spectacle, la patrouille de France. Quelle merveille de précision et de grâce en plein ciel.

Je tiens personnellement à remercier nos amis **Jean-Louis, Pascal, Daniel et notre photographe Maxence** pour avoir été là pour présenter nos activités.

Merci à **Frédéric (F0EED)** notre président, qui malgré ses congés dans le sud de la France, nous a prêté main forte afin de mobiliser nos adhérents.

Un immense merci aux **organisateurs** et notamment à Messieurs **GIBERT et RENUCCI**.

Sans oublier tous les visiteurs et les radioamateurs qui sont passés par le stand de **l'ADRASEC42.**

RDV en 2010 et surtout en 2012 pour le 20ème meeting.

Fait le 22/09/08 par F0EXF JP

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- **Le DSP Yaesu est sur une fréquence intermédiaire. Il permet une réception confortable et efficace.**
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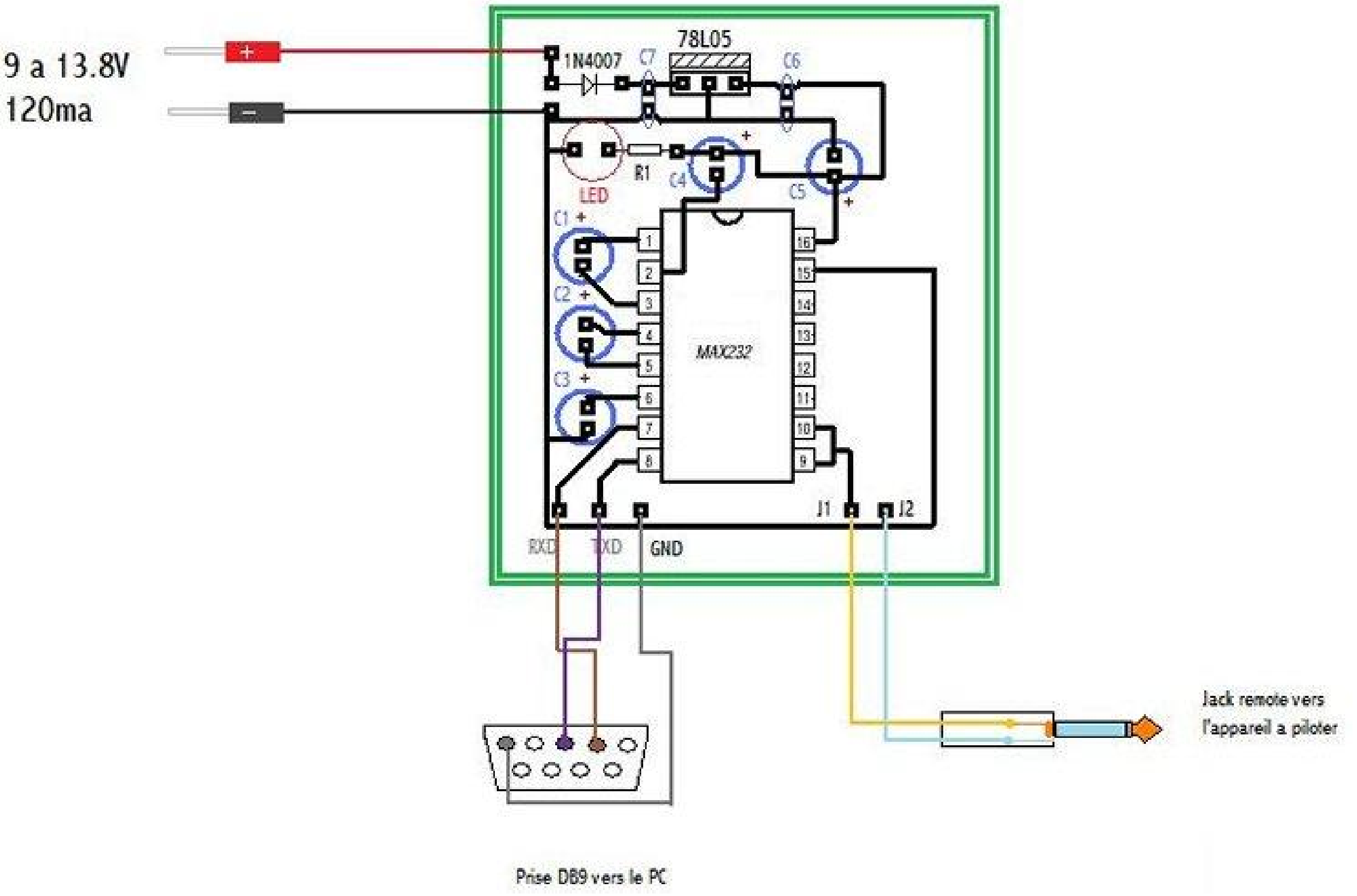
INTERFACE CAT-SYSTEM PAR F4CRM

Bon nombre de nos appareils radio peuvent se piloter par ordinateur. Pour cela c'est très simple il suffit d'utiliser une petite interface RS232 a l'aide d'un circuit intégré de type MAX 232 par exemple.

Le principe d'interface reste valable pour n'importe quelle marque d'appareil, seul le câblage sur le poste diffère en fonction des données constructeur. Se reporter a la notice. Celle-ci sert uniquement a prendre les informations de l'appareil et de les restituer sur un logiciel pour pouvoir les modifier avec sa souris ou son clavier c'est a dire tout simplement de convertir les signaux rs232 de l'ordinateur 0 logique a -12V et le 1 logique a +12V au format TTL 0 logique a la masse et le 1 Logique a +5v.

Ce genre d'interface n'est pas prévue pour faire du décodage des modes numérique. Pour cela il faudra attendre encore un peu, j'y travaille. Cependant il souvent possible d'avoir accès a des fonctions supplémentaires qui ne sont pas disponibles sur la façade du poste, facilitant par exemple la gestion des mémoires ou un mode scanning très évolué...

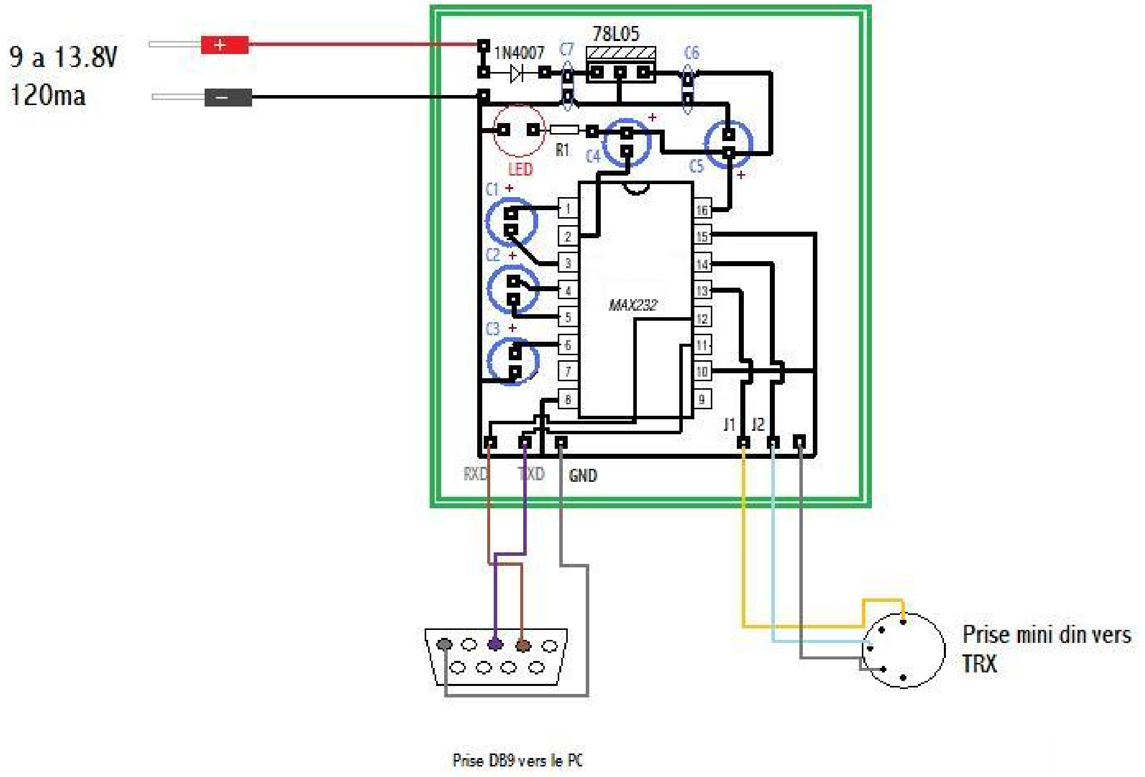
Voici le schéma d'une interface que j'utilise pour mon IC706, mon TS 50 et mon IC 735.



La nomenclature :

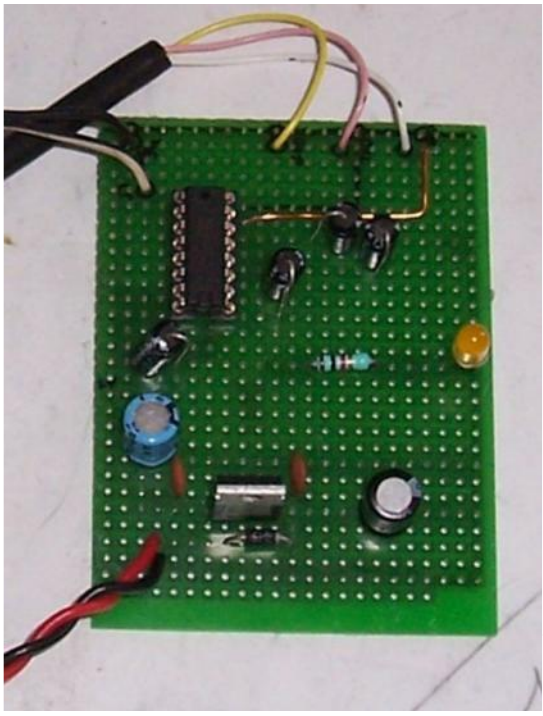
C1	condensateur 1µf 10V
C2	condensateur 1µf 10V
C3	condensateur 1µf 10V
C4	condensateur 1µf 10V
C5	condensateur 1µf 10V
C6	condensateur 0.1µf
C7	condensateur 0.1µf
D1	1N4007
CI	MAX 232
LED	Led rouge
R1	1 k ohm

La valeur des composants est importante attention a bien la respecter.
Voici la même pour Yeasu :



La particularité Yaesu c'est du 3 fils. Pour certains kenwood c'est 7 fils. Ce montage est simple à faire et ne coûte que quelques euros mais il y a deux points très importants.

*Le premier c'est qu'il est impératif à mon avis d'utiliser une source d'énergie extérieure. C'est-à-dire que j'ai vu certains montages ou la tension d'alimentation de l'interface est prélevé sur la carte mère au moyen de la prise DB9. Je pense que pour une raison de sécurité du matériel il est important de séparer les circuits en alimentant l'interface par une source indépendante, ça réduit les risques de mélange de tension qui peuvent produire des résultats fumeux !. Sauf sur le TS 50 où il y a une tension de 5V prévue pour alimenter l'interface de façon autonome. Kenwood a prévu cela de façon judicieuse. J'imagine que certains autres appareils sont également prévus comme ça, et il important de regarder dans la notice du poste sur le schéma ce qu'il est prévu de brancher. Mais ceci reste des cas bien particuliers et il est préférable d'utiliser une alimentation extérieure.



*Le deuxième point important ce sont les condensateurs utilisés pour le montage du max 232. J'ai fait plusieurs essais suite aux différentes valeurs que j'ai trouvées sur Internet. Il en résulte qu'il faut utiliser des 1µf sous 10v sinon la communication entre le poste et l'ordinateur ne fonctionnera pas. De plus cette valeur est recommandée par le fabricant du circuit intégré.

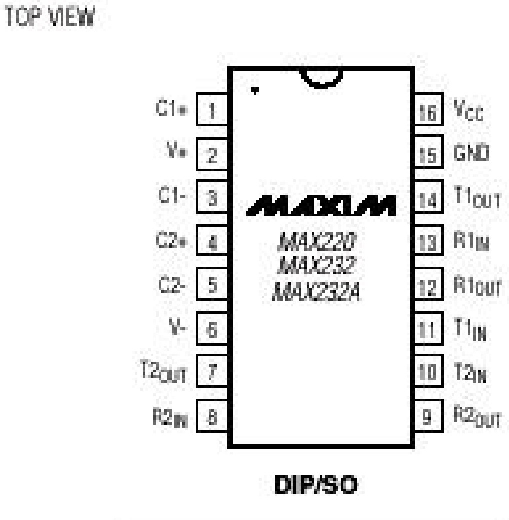
Ce type d'interfaçage est un standard plus sécurisé. Il est aussi possible de mettre encore plus de sécurité en ajoutant des circuits opto-coupleurs pour isoler les entrées / sorties. Bien que sur mes appareils, je ne l'utilise pas. Je n'ai jamais eu d'ennuis, et puis je préfère un montage simple.

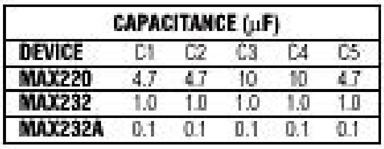
Dernier point, il est aussi possible d'utiliser ce type d'interface pour la programmation des postes comme les radiotéléphones de type 3RP. La seule chose c'est qu'il faudra modifier le câblage des entrés sorties sur le poste pour que le dialogue se fasse. Certains radiotéléphones se programment par la prise micro et d'autres par une fiche type informatique qui se trouve sur l'arrière du poste.

Pour la prochaine fois, je prépare une interface intégrant tout en un. C'est-à-dire le pilotage CAT avec une interface pour l'utilisation des modes numériques.

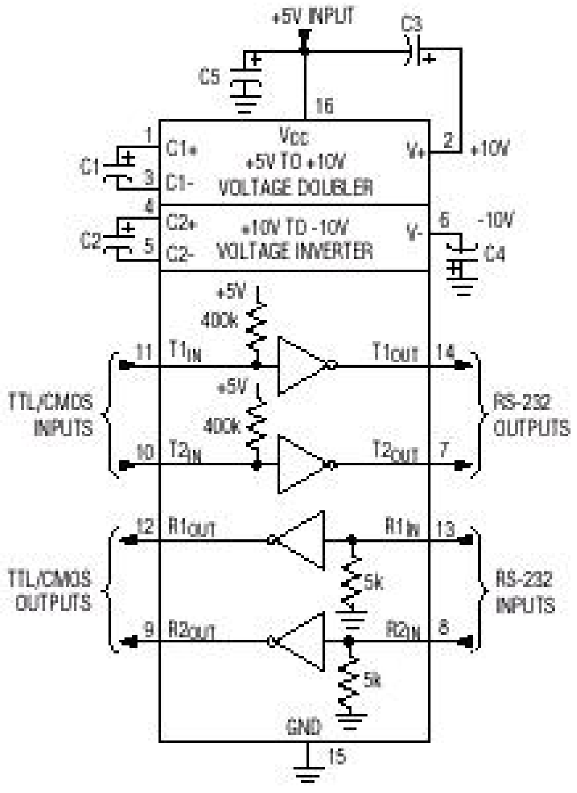
Enfin, soyez extrêmement prûdent avec certains montages trouvés sur Internet. Vous risquez de détruire votre poste ou la carte mère de votre PC voire les deux. Pour les logiciels il y en a plusieurs mais un en particulier qui va très bien avec de très nombreux postes c'est HAM RADIO.

Si vous voulez des informations complémentaires je vous suggère de m'écrire a f4crm@orange.fr Bonne réalisation.





CAPACITANCE (µF)					
DEVICE	C1	C2	C3	C4	C5
MAX220	4.7	4.7	10	10	4.7
MAX232	1.0	1.0	1.0	1.0	1.0
MAX232A	0.1	0.1	0.1	0.1	0.1



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- DIAMOND X 200 N antenne verticale VHF/UHF fibre de 2,50 m de haut = 91 €
- BELDEN H 2000 coax 11 mm super qualité = 2,99 €/m – H 155 coax 6 mm = 1,79 €/m
- YAESU GS-65 roulement cage rotor QRO = 61 € – GS-50 = 42 €
- GEAR KEEPER RT2 astucieux "repose micro" suspendu pour le mobile = 17 €
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NOUVEAU : BOUTIQUE EN LIGNE SUR WWW.RCC34.FR
CB, ACCESSOIRES, ANTENNES... POUR TOUTES DEMANDES, CONTACTEZ OLIVIER AU 04.67.41.49.77

Les infos DX

2M, Ecosse (Satellite)

Paul, 2E1EUB, est actif sous 2M1EUB du 11 au 21 octobre sur les satellites depuis le Nord (Est & Ouest) de l'Ecosse.

5Z, KENYA

Sam, G4OHX, est actif sous 5Z4/G4OHX jusqu'au 20 octobre. QSL via G4OHX.

6W, SENEGAL

Les opérateurs Ingolf/DL4JS, Rich/DK8YY, Jens-Uwe/DL8ALU, Sigi/ DL8AKI et Frank/DL1W y seront actifs sous 6W/DL4JS du 18 au 28 octobre Sur bandes HF en CW, SSB, RTTY. QSL via DH7WW

AT8, INDE (WFF Activité)

L'opération "World Flora Fauna" (WFF) depuis le parc national Bannerghatta (VUFF-005), près de la ville de Bangalore est QRV depuis le 7 octobre. Call : AT8WFF sur 40 et 20m en CW & SSB. Surveillez (entre 13h30 – 16h00z) les fréquences suivantes : CW - 7020, 14020 et 14044 kHz ; SSB - 7044, 14180 et 14244 kHz.. QSL via VU2JHM,

EH1, ESPAGNE (Evénement Spécial)

Afin de célébrer le 20ème anniversaire du magazine espagnol "Radio-Noticias", un indicatif spécial sera activé les 25 et 26 octobre. Call : EH1RN, QSL via : Radio-Noticias, Apartado 368, 15780 Santiago de Compostela, Espagne. Site : http://www.radionoticias.com

FO/M, ILES MARQUISES

Willi, DJ7RJ, y est actif jusqu'au 19 octobre. Surtout en CW de 160 à 15m Il se trouve sur la côte de l'ile Ua Pou (OC-027). QSL via DJ7RJ

GB, ANGLETERRE

Arthur, G0KOC, activera GB1BOS durant le week-end JOTA (18 et 19 octobre) depuis le "1st Broad Oak Scouts". Bandes de 80 à 10m en SSB 10h00 - 21h00z le samedi et 09h00 – 15h45z le dimanche.

HL9, COREE DU SUD

Le call HL9BSA sera activé depuis le camp militaire U.S. Humphreys, à Pyeongtaek, les 18 et 19 octobre à l'occasion du 51ème Jamborre scout. Activités de 40 à 10m en CW et SSB (un peu de RTTY). QSL via WX8C bureau ou direct.

TA, TURQUIE

Urcun, TA0U sera actif pour le contest "Worked All Germany " (WAG) les 18 et 19 octobre Voir son site http://www.ta0u.com/detay.asp?id=4283

TT8, TCHAD

Jovica, E78A (aka 6W1SJ, ex-T98A, ST0RM, ST2A) est actif sous TT8JT jusqu'au 18 novembre. Activité durant son temps libre surtout en CW sur 40/30/20 mètres. QSL via E73Y, bureau ou direct : Boris Knezovic, P.O. Box 59, BA-71000 Sarajevo, Bosnie-Herzegovine.

VK9D, ILE WILLIS (OC-007)

Les operateurs Markus/DJ7EO, Heye/DJ9RR, Chris/DL1MGB, Dietmar/DL3DXX, Tom/DL5LYM, Ben/DL6FBL, Dieter/ DL8OH, Robert/SP5XVY et Joerg/DL8WPX sont actifs depuis le 9 octobre et jusqu'au 27 octobre sous VK9DWX. 4 stations sur l'air de 160 à 6m en CW, SSB et RTTY.

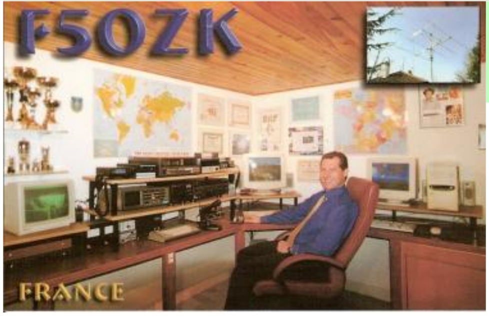
QSL via DJ2MX. Site : http://www.vk9dwx.de

ZS08, AFRIQUE DU SUD (Evénement spécial)

Le meetting international YL et XYL se déroule à Cap Town, Afrique du Sud du 13 au 18 octobre. Un call spécial ZS08YL est activé depuis : les villes de Joburg, Durban et Capetown. QSL via bureau.

LA SEMAINE PROCHAINE : SPECIAL CQWW DX SSB CONTEST (25 & 26 octobre)

L'O.M. de la semaine



F5OZK - Fred

Pour ceux d’entres-vous qui ne me connaissent pas véritablement, je vais me présenter en quelques mots.

J’ai maintenant 43 ans, je suis marié et j’ai deux beaux enfants. Je suis cadre commercial dans une société de distribution automatique et j’habite sur la commune de Neuilly-Plaisance, sur le plateau d’Avron, à quelques kms à l’Est de PARIS.

C’est à l’âge de 15 ans que j’ai découvert la radio par le biais d’un ami d’école, qui était équipé à l’époque, d’un émetteur récepteur 11m, et c’est dans cet engrenage que je suis parti…

C’est 10 ans plus tard, en 1989, que j’ai passé ma licence radioamateur, en partie grâce aux OM’s du radio-club de Sevran F5KKD, et aujourd’hui mes activités radio sont nombreuses et variées.

Au début je me suis tout de suite tourné sur le trafic DX essentiellement en SSB, RTTY et CW, avec le peu de moyens à l’époque, et j’étais un acharné, près à attendre durant des heures, afin d’obtenir le fameux « 59 ». Après environ 20 000 QSO, et près de 280 Pays confirmés au DXCC, je suis aujourd’hui devenu un chasseur de diplômes « DXCC, DTA, WAZ, WAC, DUF, DNF, DTC et IOTA », ainsi qu’aux chasses aux renards (courses d’orientation) où j’ai pu faire de bonnes places. Je participe aussi tous les ans à la Coupe du REF (CW et SSB) en multi-op à partir de notre Radio-Club F5KKD et parfois même aux concours internationaux tel que le « CQ World-Wide » où j’ai pu obtenir une 1ère place française en mono-op, 40m, CW en 1996.
Cela m’a vraiment laissé de bons souvenirs…

Mais mes meilleurs moments restent de loin mes nombreux QSO via satellites, notamment avec la station spatiale Russe MIR, où à l’époque, j’ai eu la chance d’avoir comme voisins et amis, André et Paulette Haigneré, les parents du spationaute : Jean-Pierre Haigneré, avec qui j’ai eu le privilège d’établir des liaisons radio assez régulières, afin de nous donner de ses nouvelles en direct.

Les échanges ne se limitaient pas à de simples reports, mais une véritable conversation et parfois même en plus, avec quelques échanges d'images en SSTV.

Mon rêve, à ce moment là, était bien évidemment de rencontrer Jean-Pierre Haigneré en personne, et finalement ce rêve s'est réalisé le 22 mars 2000, où j'ai pu assister au CNAM à PARIS, à la conférence sur sa mission « PERSEUS » à laquelle ce dernier s'est expliqué en détails sur ses nombreuses activités scientifiques,
ainsi que sur sa sortie extra-véhiculaire.
A l'issue de cette conférence, ont ne peut plus enrichissante et constructive, il nous a été possible de lui poser quelques questions, en particulier.
J'ai su profiter de cette occasion pour lui demander son « sentiment et impression générale » sur l'activité radio et différents QSO qu'il a pu partager avec les radioamateurs du monde.
Jean-Pierre Haigneré, nous a répondu que dans l'ensemble cela lui a laissé un très bon souvenir, mais qu'il ne se sentait pas radioamateur à part entière, mais plutôt un « opérateur radio professionnel », car pour lui, échanger simplement des « 59 » sur les indicatifs ne l'intéressait pas vraiment… Mais en revanche, il a reconnu avoir fait de très bons contacts radio, notamment avec l'équipe de ROUEN pour l'ARMADA du siècle, avec le bateau Russe MIR ainsi que ses liaisons avec les Kerguelen !

Depuis cette formidable expérience que j'ai vécue à ce moment là, rien ne m'empêche, à présent, de continuer à explorer les bandes décamétriques où je continue toujours à prendre autant de plaisir sur différents modes, soit en portable durant mes congés, ou en mobile sur les divers relais VHF durant mes trajets professionnels.

Mes activités radio, ne se portent pas seulement à la communication, mais aussi à l'internet, où j'ai pu mettre en place il y a maintenant près de 4 ans, 2 sites Internet, dont je suis le webmaster :

- Notre site départemental de la Seine-Saint-Denis :
  http://ref93.free.fr

- Ainsi que le site de notre radio-club F5KKD :
  http://f5kkd.free.fr (dont j'en suis également le Président depuis maintenant 2 ans !)

Enfin, si vous êtes en région parisienne, vous aurez peut être l'occasion de m'entendre tous les dimanches matin sur le 144.575 Mhz à 10h locale où je participe au QSO départemental du REF-93, où même parfois en journée sur le R0 en VHF.

Au plaisir donc de vous contacter…

73's de Fred F5OZK

@ Une visite s'impose !

Bonjour chers cousins français.
Je m'appelle Alex en mon indicatif est VE2AMT
Je suis co-fondateur du site francophone RFGAIN.CA , un des rares sites francophones du Canada à contenu technique élevé.

http://www.rfgain.ca

Amitiés et 73 QRO du Canada
Bobby VE2KBM et Alex VE2AMT

LISTE DE DIFFUSION
"om_84"
"La liste des radioamateurs et des passionnés de radiocommunication de Vaucluse et des départements voisins."
Cette liste s'adresse aux habitants du Vaucluse (84) et à ceux des départements voisins , et plus généralement à tous ceux qui, radioamateurs ou non, voudraient échanger des informations dans le domaine de la radiocommunication et des nouvelles technologies s'y rapportant. (Informatique, GPS, radiosondes météo, ballons, etc.)
Créée par un radioamateur d'Avignon, F 1 GIL, Roland, elle permettra, en temps réel:
-de partager des expériences personnelles,
-de faire connaître des tests de matériel,
-d'annoncer des réunions, des manifestations,
-d'annoncer une émission de télévision amateur,
-de faire connaître des sites internet à visiter,
-de donner en temps réel des infos sur la propagation,
-de demander des renseignements,
-d'aider les candidats à la licence radioamateur, etc.
Adresse du groupe:

http://fr.groups.yahoo.com/group/om_84/

Pour s'inscrire, envoyer simplement un message à:
om_84-subscribe@yahoogroupes.fr
F1 GIL, Roland Werlé, AVIGNON (84) JN23JW, f1gil@yahoo.fr

Bonjour à tous !
Ayant construit en 10 ans 136 boites de couplage ,en majorité avec sorties bi filaire, quelques-unes de mes réalisations sont décrites sur le site de mon ami F5ZV

http://perso.wanadoo.fr/f5zv

Cordiales 73's - J.P. / F6BPO (UFT. 330)

Un site à voir :
SSTV site de CX2ABP à Montevideo, Uruguay

http://cx2abp.freehostia.com/

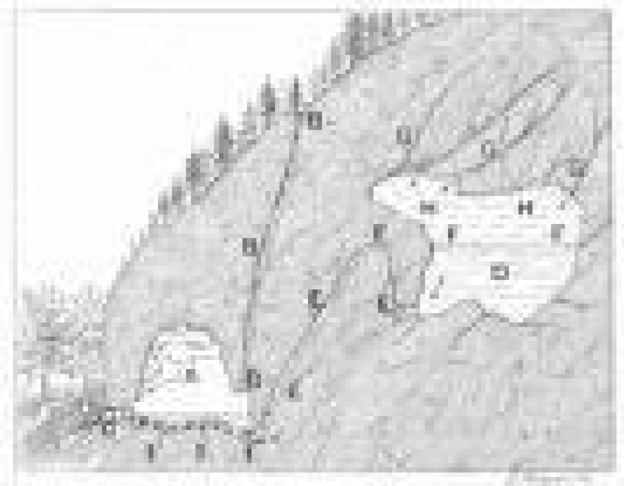
73s de Milo, On4kep

Lieu insolite

LA FONTAINE INTERMITTENTE DE FONTESTORBES (09)

Nous voici en face de l'une des curiosités de la nature. Un phénomène très rare. La rivière qui sort de la grotte de Fontestorbes coule par intermittence. Cette fontaine vauclusienne se déverse en cascade de la grotte pendant 36 minutes et 36 secondes, puis s'arrête pendant 32 minutes et 30 secondes. Le débit est de l'ordre de 1600 litres à la seconde mais peut atteindre 3000 litres à la seconde après un orage. Le passage du débit presque nul au débit maximum et inversement s'effectue en quelques minutes. Les pulsations souterraines responsables de cette intermittence ne se produisent cependant que de juillet à octobre. Certaines années de sécheresse, le phénomène peut durer jusqu'en janvier. Le reste de l'année, la fontaine coule en permanence. Le phénomène d'intermittence est d'une régularité astronomique.

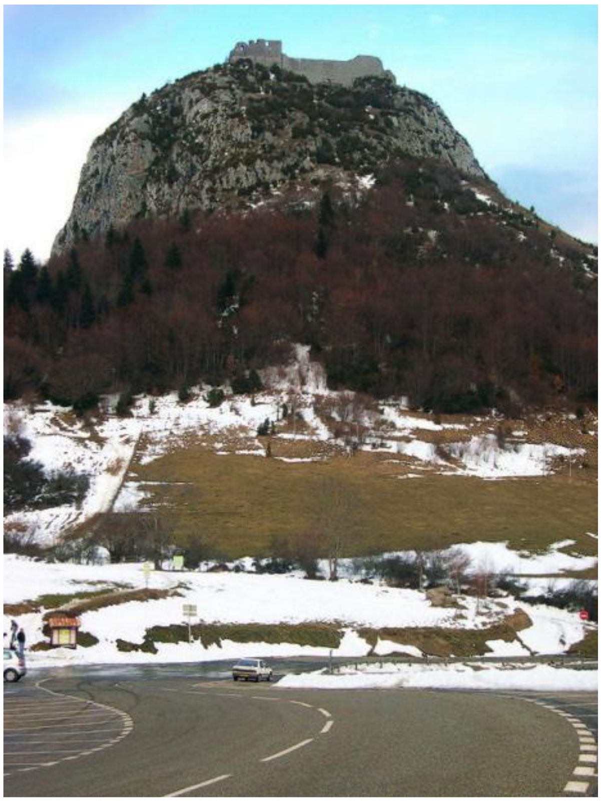
La fontaine de Fontestorbes est alimentée par un bassin de 80 km2 comprenant la partie orientale du massif de St Barthélemy, du Mont de la Frau, du haut bassin de l'Hers et la partie occidentale du plateau de Sault. En l'absence de pluie et donc d'eau d'infiltration, la source est alimentée par les importantes réserves souterraines estimées à 30 millions de m3. Ces réserves sont situées sous les terres imperméables autour de Fougax et Barrineuf.



Le phénomène d'intermittence de cette source a toujours intrigué les hommes. La 1ere explication satisfaisante a été donnée en 1857 par monsieur Darcy. Il a imaginé un réservoir souterrain, vidangé au travers d'un siphon. En période de basses eaux, le débit de la vidange est supérieur à celui de remplissage. Donc le réservoir se vide plus vite qu'il ne se remplit et le siphon ce désamorce. Dans ce cas, la vidange s'arrête jusqu'à ce que le réservoir se remplisse à nouveau et que le siphon s'amorce.

En 1969, monsieur Mangin démontra à l'aide d'expériences que l'explication couramment admise jusqu'à cette date ne correspondait pas à Fontestorbes. Pour que le mécanisme à siphon puisse fonctionner, il faut que le débit de vidange soit très supérieur à celui de remplissage. Mais les mesures effectuées à Fontestorbes démontrent que l'intermittence débute avec un débit de vidange de 1245 litres à la seconde et un débit de remplissage de 1040 litres à la seconde.
Le nouveau modèle proposé est constitué d'un réservoir vidangé par un conduit principal et par un conduit secondaire. Pour que le modèle fonctionne, il faut que le départ du conduit secondaire, au niveau du réservoir, soit situé au même niveau que le raccordement du conduit secondaire sur le conduit principal. De ce fait, les deux extrémités du conduit secondaire étant au même niveau, aucune pression n'existe dans ce conduit. Le passage de l'eau dans la conduite principale va créer une dépression dans la conduite secondaire aspirant l'air qui s'y trouve. L'air ainsi aspiré par la conduite principale dans la conduite secondaire va prendre la place de l'eau et ainsi diminuer le débit de vidange. La diminution du débit de vidange permet au réservoir de se remplir à nouveau. Lorsque le niveau d'eau du réservoir dépasse l'entrée du conduit secondaire, la prise d'air disparaît. Le débit de vidange reprend son débit nominal. Et le phénomène recommence.
D'excellentes explications sur le fonctionnement de la Fontaine de Fontestorbes (avec expérience à la clé) sont fournies sur le site :
http://www.pierre.benard.freesurf.fr/StBarth/Fontes/fontes.htm

En 1956, des spéléologues ont découvert à 1120 mètres au Sud / Est de Fontestrobes, le gouffre de Caoujous. Une fois le gouffre désobstrué, l'exploration fit apparaître une succession de puits aboutissant à 70 mètres de profondeur à une galerie. Chaque extrémité de cette galerie débouche sur un lac souterrain. Lors de la période d'intermittence de Fontestorbes, le niveau de ces lacs varie de plus de quatre mètres avec la même régularité que la fontaine. Ces variations sont accompagnées de toutes sortes de bruit allant du grondement au chuintement de la fuite d'air. Les mesures faites au gouffre de Caoujous font apparaître qu'il fait partie du mécanisme d'intermittence. Il sert probablement de prise d'air au système.
Les fontaines intermittentes sont extrêmement rares. A l'heure actuelle, une trentaine sont connues dans le monde. Mais aucune n'a l'importance de celle de Fontestorbes.



Cette fontaine a été chantée par le poète Guillaume de Salluste du Bartas. Dans la "Septième semaine" de sa création, paru en 1958, il la compare à une horloge :

"Flot docte à bien compter, qui guide par nature
Le temps très seurement, sans horloge ou mesure"

(Texte extrait de "Guides des Pyrénées mystérieuses " éditions "Princesse" de 1976)

Cette fontaine possède bien sûr ces légendes, comme celle de la belle Angèle. Comme beaucoup de grottes, celle-ci était habitée autrefois par les fées qui s'appelaient ici les "Encontados". Celles-ci avaient l'habitude de laver leur linge dans la source avec des battoirs d'or. Près de la grotte habitait à la métairie de "Pierrets", la belle Angèle qui venait de se marier. Le jour où elle se trouva enceinte, une des fées, qui avait l'habitude de passer les veillées aux "Pierrets", lui demanda de venir accoucher dans la grotte pour que les fées puissent l'aider. Pour remercier Angèle d'avoir accepté, la fée lui offrit une baguette permettant d'exaucer tous les vœux. Angèle utilisa la baguette avec beaucoup de modestie. De ce fait, le bonheur ne quitta pas les "Pierrets" durant toute sa vie. Sentant sa mort proche, elle remit la baguette à ces enfants en leur recommandant de ne pas la fractionner. Mais chacun voulait un morceau et ils ne résistèrent pas à la tentation. A peine brisée, la baguette perdit tout pouvoir. (Cette légende est tirée du document distribué par l'agence intercommunale du tourisme du pays d'Olmes)

Les courageux pourront grimper sur le haut des falaises. Ils trouveront à cet endroit l'oppidum du Mayne. Cet oppidum fut le dernier refuge des Celtibères libres du pays de Sault. Vous pourrez voir à cet endroit les ruines des murs qui encerclaient un village de la Tène (200 à 100 avant JC). Les fouilles effectuées permirent de découvrir une grande quantité d'objets en fer tel que ornements de courroies, de fourreaux, de bagues, de bracelets et de fibules en bronze. Le peuple qui habita ici commerçait avec des contrées lointaines. On a découvert, sur le site, des pièces de monnaie ibères des Ilergétes de Lérida, des Volques Tectosages de Toulouse, de Narbonne, de Marseille et des Celtes d'Armorique. L'oppidum fut déserté après la conquête romaine. Aucun vestige postérieur à la conquête romaine ne fut trouvé sur le site.
(Sources diverses sur le Web)

POUR Y ACCÉDER:

De Quillan, prendre la direction de Foix par la D117. A Belesta, prendre la direction de Fougax-et-Barrineuf / Montségur par la D5. La fontaine est sur le côté gauche de la route.

www . difona . de site en français info @ difona . de

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Passez, S.V.P. Votre commande 1 semaine avant les salons.

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IC-7200 Le nouveau TX déca et 6m , pour un tarif inférieur à 1000€, réunit de façon convaincante des qualités de la technologie numérique avec une simplicité d'emploi et un dessin robuste. De ce fait il est censé d'être aussi utilisé à l'extérieur. Il possède des filtres FI numériques à réglages individuels, un accord Twin-Passband numérique, un filtre Notch manuel et un réducteur de bruit numérique.

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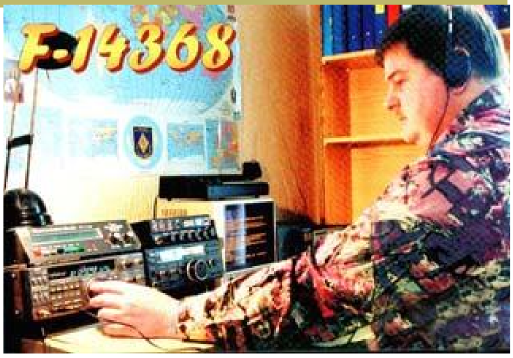
Heures d'ouvertures : lundi au vendredi de 9 à 13h et de 14 à 17h30 . Fermé le samedi !

Les grandES oreilles

Rubrique SWL
de Franck F14368

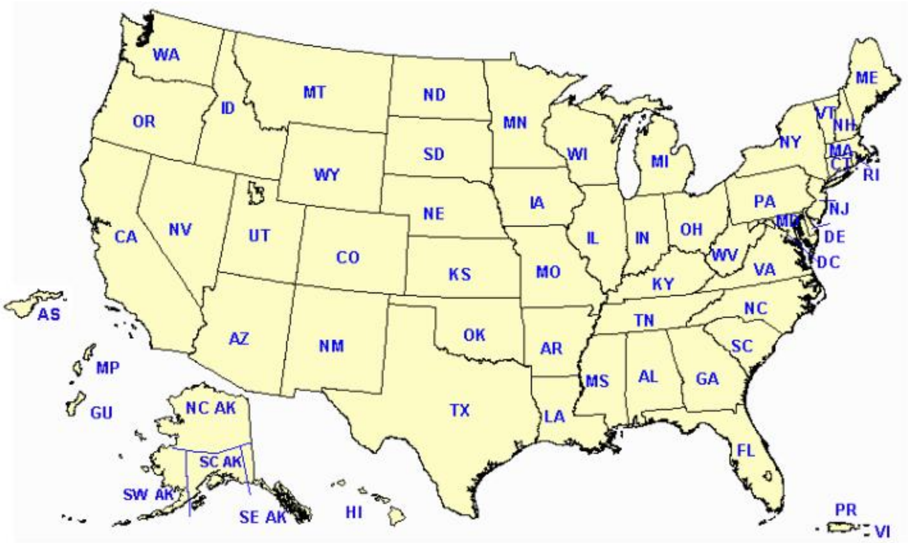


Cette semaine, Franck nous présente le concours ARRL 10 mètres qui est aussi ouvert aux SWL.

Concours ARRL 10 Meter Contest (28Mhz)
Phonie et CW
RS(T), Etat des USA/Province or numero progresif
www.arrl.org/contest
Envoi des log avant le 7 janvier 2009
Date du concours : 6 Dec 00h00Z - 7 Dec 24h00Z
Durée: 24H00
Reglement en Francais (merci a F5JBR)
http://f5jbr.free.fr/reglement_concours_liste/arrl_10m.html

Pour la partie SWL (contest créé par SWL F-14368 !)
http://hamradio.nikhef.nl/cie/nl/Rules_28MHz_SWL_Contest.htm
En Francais (merci a F5JBR):
http://f5jbr.free.fr/reglement_concours_liste/swl_challenge_10m..html

Liste des états U.S. :



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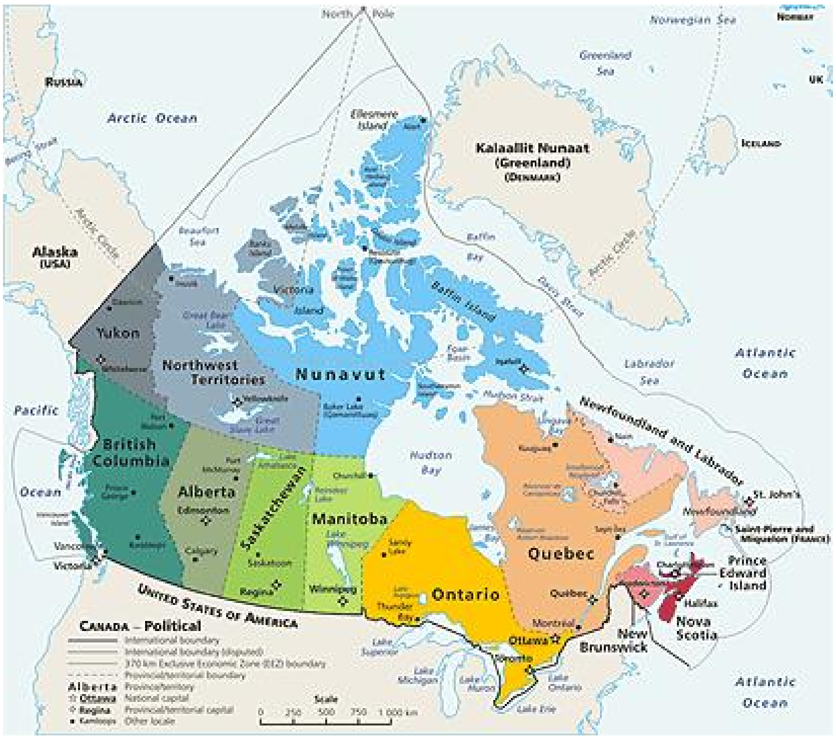
SC Caroline du Sud Columbia
SD Dakota du Sud Pierre
TN Tennessee Nashville
TX Texas Austin
UT Utah Salt Lake City
VT Vermont Montpelier
VA Virginie Richmond
WA Washington Olympia
WV Virginie Occidentale Charleston
WI Wisconsin Madison
WY Wyoming Cheyenne
+ pour le contest: DC District of Columbia



W/VE stations (y compris Hawaii & Alaska) envoient un report de signal suivi de leur état ou de leur province. (Les stations du District de Columbia envoient DC).

Liste des provinces Canadiennes:

Canada [NB (VE1, 9), NS (VE1), QC (VE2), ON (VE3), MB (VE4), SK (VE5), AB (VE6), BC (VE7), NWT (VE8), NF, (VO1), LB (VO2)], YT (VY1), PEI (VY2) NU (VYØ).

Affutez les antennes
73 de F-14368 Frank

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et un TX très robuste pour du "tout terrain"

TS-2000

FT-950

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Par F4URX

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Vous avez deux possibilités pour le réaliser, soit en tube de différents diamètres, 60 millimètres, 80 millimètres, et 100 millimètres, ou en profilés carrés de même dimension, que vous pouvez récupérer chez le ferrailleur du coin ou chez un marchand de ferraille proche de votre domicile..

Prenez trois tubes de 4 mètres de long, emboitez les de 50 centimètres les uns dans les autres.

Acheter 20 mètres de câble acier de 6 millimètres pour le schéma 1 et 8 millimètre pour le schéma 2.

Acheter 2 ou 3 roulettes, du fer plat de 3 centimètres de large qui sera soudé sur les tubes (voir schéma).

Acheter les treuils dans un magasin ou à un camion de bricolage de passage chez vous.

Acheter 50 mètres de fil de fer galvanisé pour les haubans..

Le mât du schéma 1, est plus pratique car il permet de rester déplié.

Percer un trou à 3,50 mètres dans chaque tube pour y faire glisser un axe (voir schéma) afin que le tube du haut et celui intermédiaire reposent les uns sur les autres cela permet de détendre chaque câble.

Une fois déplié le mât fait 11 mètres de haut.

Pour le stabiliser j'ai mis 4 haubans en haut et 4 haubans en haut du tube intermédiaire.

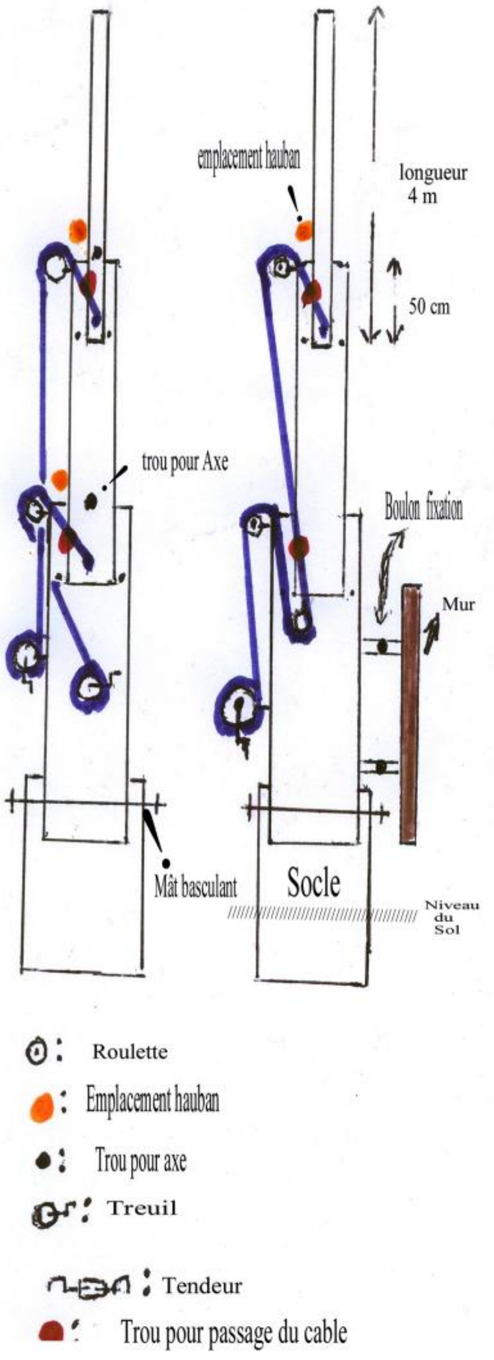
Pour permettre de redresser les tubes en position verticale (4,50 mètres replié), j'ai scellé un socle dans le sol (voir schéma), avec 4 bons bras vous devrez le lever , mais seul il vaut mieux le lever à l'aide d'un treuil, pour cela fixer un câble en haut du mât de 100 millimètres, quant au treuil il sera fixé en bas du mur ou du socle.

Votre mât vous pouvez le placer le long d'un mur maintenu par deux fer plats scellés dans le mur, et soudés sur le tube de 100 millimètres.

N'oubliez pas de percer les deux fer s plats pour la pose d'un boulon de fixation.

Pour éviter que l'eau entre dans les tubes enrouler un morceau de chambre à air autour des tubes.

N'oublier pas de faire des repères sur le tube du haut et celui intermédiaire à 3,50 mètres ainsi que sur le câble en acier pour éviter que les tubes sortent de trop, se déboitent et tombent au sol.



Bon courage ….F4URX, Clotaire

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31ème Salon Radioamateur

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F5KPO de l'ARV 84
F6KOU du RCN-EG

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F6HQY

Une Antenne entre les dents

Bernie de F6HQY nous propose sur un ton comique et incisif, une nouvelle concernant notre monde radioamateur. A prendre au second degré, cette nouvelle en plusieurs parties s'intitule :

CHATEAU FOIREUX (2ème partie)

Toute ressemblance avec des personnages existant ou ayant existé est fortuite et involontaire de l'auteur.

Regard perplexe des autres. « Activer un château ... C'est quoi cette histoire ? »
- Hé bien en fait, ce n'est pas très compliqué. On repère un château dans la région, on s'y installe en portable pour la journée et on contacte un maximum de stations qui concourent pour le DFCF. Ça se fait en général sur 40 mètres. Après, on confirme par QSL toutes les liaisons.
- C'est naze, ce truc ! Quoique s'il fait beau, on peut toujours pique niquer...
- Arrête un peu, Robert, je trouve que c'est une très bonne idée au contraire ! L'indicatif du club actif sur 40 mètres, ça fait belle lune que ce n'est pas arrivé... Qu'est-ce qu'il faudrait comme matériel pour faire cette activation, Cédric ?
- Pas grand-chose, à vrai dire. On peut se servir du 706 branché sur la batterie de la voiture. Pour l'antenne, j'ai une G5RV full size qui fera l'affaire. Et puis j'ai un PC portable pour enregistrer les QSO, le programme imprime même les infos de chaque QSO sur des étiquettes.

- Moi, je veux bien m'occuper du pique nique !
- Bonne idée, Robert, mais pas trop de vin... comme lors de la galette des rois par exemple. André, qu'est-ce que tu en penses ?
- Oui, pourquoi pas... Ça me sortira un peu. Et je pense à quelque chose, si j'amenais mon ampli Home Made ? Parce que le 40 mètres, si t'as pas de jus...
- Et tu le branche où, ton ampli, sur la batterie de la voiture ?
- Arrête, il doit bien y avoir du 220 volts dans le château, non ?

Le président leva les bras en signe d'apaisement et fît :
- Attendez, nous n'en sommes pas encore là, il y a pas mal de détails à régler. Pour commencer, trouver le château à activer. J'en fais mon affaire et je vous tiendrai au courant. Pour le matériel, on va faire comme l'a dit Cédric, le 706 marche très bien. Par contre, comment on va grimper la G5RV dans un arbre ? Quelqu'un a une idée ?
- Pas de problème, mon gamin a un lance pierre. Un gros boulon et du fil de canne à pêche et ça va le faire au petit poil.
- Super, Robert. Tu es toujours d'accord pour préparer le pique nique ?
- Ce qui est dit est dit. Vous ne serez pas déçus !

- Et toi, André, vois si tu peux amener ton ampli. C'est quoi au fait ?
- Je l'ai fait il y a trente ans avec des EL 509. Il sort bien dans les 500 watts HF. Bon , il faudra quand même que je le vérifie car ça fait une paye qu'il n'a pas tourné. Et puis il pèse le poids d'un âne mort, faudra m'aider à le charger dans la voiture ... Surtout l'alimentation.
- Cédric te filera un coup de main. Bon, tout est parfait, je crois que nous allons enfin faire parler de nous ! Je propose qu'on lève la séance si personne n'a rien à ajouter ? Et je vous téléphonerai dès que j'en saurai plus pour cette histoire de château...

La fine équipe finit la bouteille de cidre puis leva rapidement le camp tandis que Cédric observait les affiches punaisées au mur : une vieille carte un peu jaunie avec les indicatifs de tous les pays du monde – indicatifs pas à jour bien sûr –, quelques cartes QSL, la page du journal local daté de septembre 1975 où un reportage avait été fait sur la mise en place du relais VHF, le schéma d'une alimentation stabilisée à base de 3055... Il se dit qu'il valait mieux que ses potes ne viennent pas faire un tour dans le coin, ils se foutaient suffisamment de sa tronche avec cette activité radioamateur. « C'est quoi, ce truc, tu passes de la musique par radio ? ». « Pourquoi tu ne fais pas ça sur internet, c'est moins cher ! ». « Y'a des gonzesses dans ton truc ? ». Et ainsi de suite.

Jacques ferma la porte du local à double tour, salua sa maigre troupe et monta dans sa voiture. Cette histoire de château à activer lui redonnait le moral, c'est vrai qu'il se sentait un peu con lors des réunions à Tours, quand on lui demandait : « alors, Jacques, chez toi, comment ça se passe ? » et qu'il ne savait quoi répondre. Il avait même l'impression que Betty le regardait de travers dans ces moments là.
Robert mis le cap vers son domicile en pensant qu'il allait se faire un sandwich aux rillettes accompagné d'un verre de vin. Il arriverait même à temps pour le déguster en regardant le journal de la Trois.
André, tout en conduisant, se disait pour sa part qu'il ne fallait pas qu'il oublie son traitement pour la prostate avant de se coucher, son PSA avait légèrement augmenté ces derniers temps. Cette histoire d'ampli le turlupinait un peu, malgré tout, ne s'était-il pas avancé un peu vite ? Il faudrait qu'il voie ça dès le lendemain.
Cédric, quant à lui, réfléchissait aux détails pratiques de cette activation. Peut être que ça allait redynamiser le club ? On pouvait l'espérer...

A SUIVRE...

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- Radiogoniométrie
- Brocante radio

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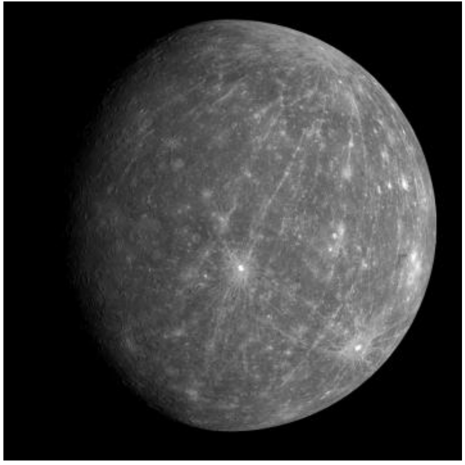
Chînons sur la toile

MERCURE EN PHOTO PAR MESSENGER

La sonde Messenger (MErcury Surface, Space ENvironment, GEochemistry & Ranging spacecraft) n'était qu'à 200 km de la surface de Mercure pour réaliser ce cliché. Mercure est la planète la plus proche du soleil et la plus petite du système solaire. C'est la toute première fois que la planète sera entièrement cartographiée par une sonde terrestre à une résolution étonnante pour obtenir des détails extrêmement précis.
Source : Gizmodo.fr

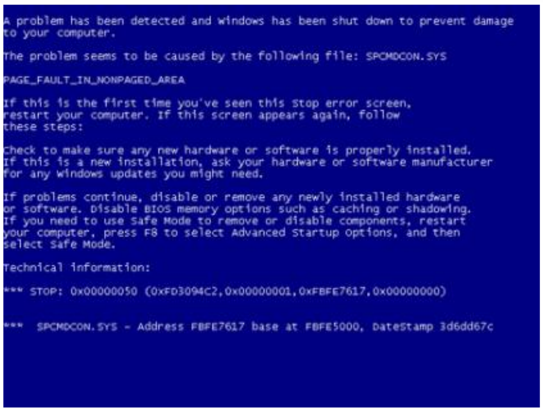


Le lancement du satellite européen Goce d'exploration de la Terre, initialement prévu le 10 septembre, est reporté pour la troisième fois, à une date indéterminée, a annoncé jeudi l'Agence spatiale européenne (Esa).
Le tir avait déjà été repoussé au 5 octobre, puis au 27, en raison d'une anomalie sur un système de navigation du lanceur, une fusée russe Rockot. Elle avait dû être ramenée du pas de tir au bâtiment d'assemblage du cosmodrome de Plesetsk, dans le nord de la Russie.
Source : AFP

''iTunes 8'' fait planter Vista

Chez Apple, on ne fait pas que des heureux avec les mises à jour des produits : l'iTunes nouveau, la version 8, semble, d'après plusieurs échos de mécontentement sur la toile, causer des bugs dans Vista – voire des plantages complets du système -, à cause du fameux # écran bleu de la mort # qui nécessite un redémarrage du micro.

Selon Apple, il s'agirait de problèmes de conflits entre des pilotes des périphériques (Scanner, Imprimantes, etc…) et les iPod ou iPhone contenant des photos en mémoire.
Pour y remédier, Apple propose une solution :
Débrancher les iPod, désinstaller entièrement iTunes ainsi que le logiciel Appel Mobile Device Support, redémarrer l'ordinateur et réinstaller les logiciels avec l'installateur d'iTunes 8 mis à jour.



```
A problem has been detected and windows has been shut down to prevent damage
to your computer.

The problem seems to be caused by the following file: SPCMDCON.SYS

PAGE_FAULT_IN_NONPAGED_AREA

If this is the first time you've seen this Stop error screen,
restart your computer. If this screen appears again, follow
these steps:

Check to make sure any new hardware or software is properly installed.
If this is a new installation, ask your hardware or software manufacturer
for any windows updates you might need.

If problems continue, disable or remove any newly installed hardware
or software. Disable BIOS memory options such as caching or shadowing.
If you need to use Safe Mode to remove or disable components, restart
your computer, press F8 to select Advanced Startup Options, and then
select Safe Mode.

Technical information:

*** STOP: 0x00000050 (0xFD3094C2,0x00000001,0xFBFE7617,0x00000000)


***  SPCMDCON.SYS - Address FBFE7617 base at FBFE5000, DateStamp 3d6dd67c
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ADRESSE ....
CODE POSTAL .... VILLE .... TEL ....
Veuillez me faire parvenir les articles suivants : ....

http://www.sardif.com

AGENDA

L'UBA Section KSD de Koksijde organise sa **Brocante** le **19 Octobre** 2008 au centre culturel " de Trounke " Dorp , 8630 Houtem (Veurne, Belgique) - Portes ouvertes à 09h30.
Radioguidage 145.425 MHz - Boissons et Sandwiches dispo.
www.westhoek.be
Renseignements :
André Gisquière ON3BID , on3bid@telenet.be , Tel: 0032 486 79 80 85
Michel Simon ON7QL , on7ql@telenet.be , Tel: 0032 477 25 55 48

Le samedi **18 octobre** prochain, notre ami Jean F6AOD, organise comme chaque année, sa **brocante TSF**, sur le parking de l'Hôtel Campanile, situé au 119 boulevard Robert Schuman, 93 - LIVRY-GARGAN. L'entrée est gratuite, alors venez nombreux... Bien cordialement, Le REF93

Brocante Radioamateur Traditionnelle du Brabant.
Dimanche 09 novembre 2008 à Evere (Belgique)
Organisée par la section UBA-RCB et le radio-club de Bruxelles ASBL dans ses locaux de l'Athénée royal, rue C. Permeke à Evere. A 500 mètres du magasin Carrefour (EX-GB) d'Evere.
Ouverture aux exposants à partir de 9h00. Visiteurs de 10h00 à 16h00.
Accès facile aux salles pour les exposants avec plus de 100 tables à disposition. un parking gratuit important est réservé aux exposants et aux visiteurs.
Inscription et réservation : ON4LW, Denis, on4lw@uba.be
ou ON4AY, Alex, on4ayl@skynet.be

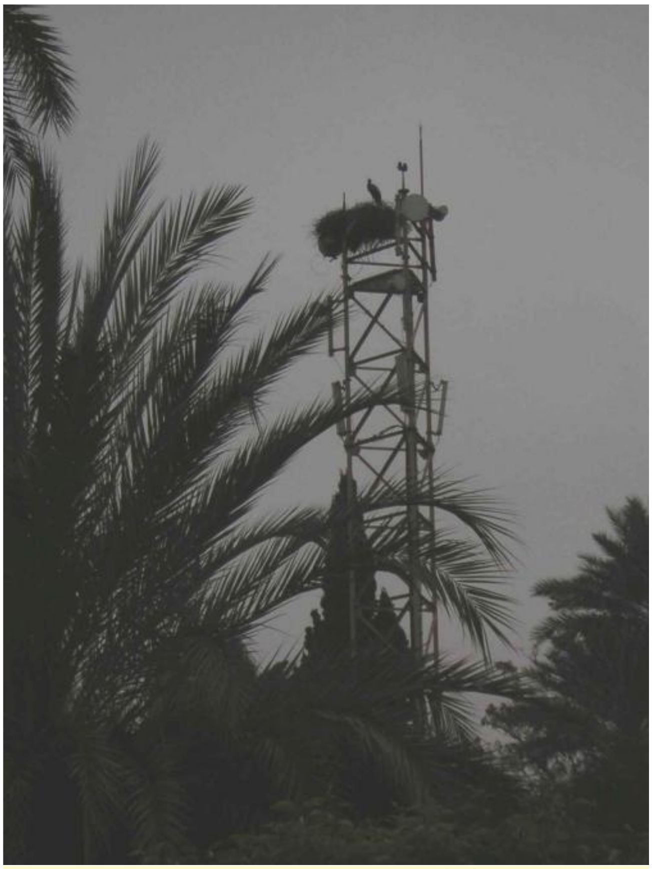
Communiqué de presse (par F1GIL Roland)
MONTEUX 2008 (Vaucluse), Trente et unième édition !
Le Salon Radioamateur organisé par l'ARV (Association des Radioamateurs Vauclusiens) aura lieu à MONTEUX (84) salle du Château d'Eau :
le samedi 8 novembre 2008 de 9 h à 18 heures.
Démonstrations TVA, APRS, SSTV, PSK, Présence des Radio-Clubs locaux F5KPO et F6KOU
Exposants professionnels et brocante,.
MONTEUX se trouve à une quinzaine de kilomètres d'AVIGNON, direction Carpentras.
Réservations: monteux-arv84@orange.fr et au 06 24 17 30 16 .
Informations sur : http://ed84.ref-union.org / Contact presse: Roland Werlé / f1gil@yahoo.fr

Brocante et bourse d'échange radioamateur à Mauprévoir (86) le 19 octobre.
Dans le cadre de ses activités, le radio -club de Neuville et du Haut -Poitou, F5KFL organise une journée Brocante et Bourses d'échange le Dimanche 19 Octobre 2008 à la salle des fêtes de Mauprévoir (sud Vienne). Apportez votre pique-nique (tables disponibles à l'intérieur) et n'oubliez pas vos couverts. Buvette (croissants, café, boissons). Au cours de l'après-midi, initiation à une course de radiogoniométrie. Pour les personnes intéressées, possibilité de balade dans le village (fours à chaux, château).
Vous êtes intéressés vous avez du matériel à vendre ou à échanger, nous vous invitons dès maintenant à réserver votre emplacement, attribué à titre gratuit à tout participant.
Réservation par email à f8eou@neuf.fr ou f4aqw@cerfrance.fr
Venez nombreux nous rendre visite pour dénicher l'objet manquant à votre station
73 à toutes et à tous et au 19 octobre pour le "visu" ! F8EOU Michèle et toute l'équipe radioactive.

COMIC'S HAM

La rubrique détente

Le 1er OM QRV en PSK Pédestre !



Il semblerait que les relais téléphoniques
ne soient pas dangereux pour...
Les cigognes ! (qsp F4FUC)

Un OM se rend chez Chez l'oiselier :
- Bonjour monsieur !
Je voudrais acheter un perroquet !
- Je suis désolé monsieur, mais je n'en ai plus!...Si vous voulez, je peux vous proposer ce pivert...
- Et ça parle, cet oiseau-là ??
- Non, mais il connaît le morse !!!

Kenavo de F5DBC Drude Breton Chauve

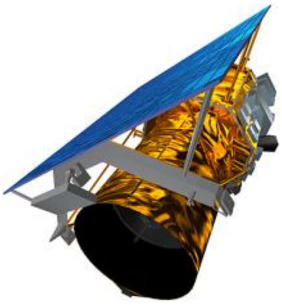
WILBO
W3AEN
J7DRW
W2LLP
W3K
JOHN FALTER
"Here's a message from Milwaukee"
Schlitz tastes so good to so many people,
it's first in sales in the U.S.A.
Schlitz
The Beer that made Milwaukee Famous

Mon YL ne m'a jamais amené de bière pendant mon trafic. Et vous ?

La Semaine prochaine …

IUT MARCONI 2008
PAR HB9DVD

LES NOUVELLES DE l'ESPACE
PAR F1OK



SOURCES ET FORCES TELLURIQUES A CLIMBACH
PAR F5RCT

DERNIERE MINUTE :
Activation du phare de Dunkerque pour le DPLF : Diplôme des Phares du Littoral Français (DPLF) PB 071 - F6KMB/P - Samedi 15 NOVEMBRE 2008 - SSB 7 Mhz - La carte Qsl est déjà imprimée. Activation par le radio Club Jean Bart.
Amitiés - GUY F6HST - Vice président du radio-club Jean Bart F6KMB.
Site du Diplôme des Phares du Littoral Français : http://dplf.wlota.com
QSP de F5OGG - WLOTA Manager

HAM-MAG

Le 1er E-magazine hebdo pour radioamateurs, amateurs radio, SWL...

Marconi et Kemp en 1901

NUMERO 4
GRATUIT

20 OCTOBRE 2008
http://ham.france.free.fr

EDITORIAL

Cher(e) abonné(e) bonjour,

Cette semaine, vous ne retrouverez pas certaines rubriques. 3 pages sont en effet consacrées aux infos DX, dont une spécialement au contest CQWW DX SSB qui aura lieu les 25 et 26 octobre prochains.
Vous avez la liste des principales stations actives durant ce contest ainsi que leur QSL manager. Ce concours est l'un des plus grands du monde. C'est aussi l'occasion pour certains de passer un week-end entier devant leur émetteur, ou quelques heures seulement pour d'autres. Et c'est également l'opportunité de faire quelques nouveaux pays et d'améliorer son score au DXCC.
Même si je ne suis pas une bête à concours, j'aime écouter, donner quelques points et constater que, malgré le peu de propagation, certains savent se donner les moyens de se faire entendre et de nous entendre.

Concernant votre magazine, nous arrivons au numéro 4, presque un mois d'existence et le nombre d'abonnés qui monte, lentement mais sûrement.
Différents sujets ont été traités dans un peu tous les domaines. Seules les VHF/UHF/SHF n'ont pas été mises à l'honneur. Mais nous sommes ouverts à toutes publications concernant l'exploration de ces bandes. A ce propos, la semaine prochaine, nous vous proposons un montage d'un duplexeur UHF.

L'histoire de la radio sera traitée aussi. S'il est important de se tourner vers les nouvelles technologies, il est tout aussi intéressant de connaître les origines de notre activité. Il est étonnant de lire que certaines inventions datent de périodes antérieures à celles que l'on croyait. Par exemple, le premier véhicule mû sans chevaux date de 1640 (véhicule à ressort). 1943, premier calculateur électronique (l'ancêtre des ordinateurs). 1947, premier four à micro-ondes commercialisé (grâce aux études sur les micro-ondes), et évidemment... 1896, première liaison T.S.F. établie par Marconi !

Marconi, justement ! un article concerne ce pionner de la communication. Article commémoratif sur ses essais radio durant l'été 1895. A cette époque, on était bien loin des voitures, avions, fours à micro-ondes, micro-ordinateurs et... Emetteurs-récepteurs modernes aux multiples boutons et lumières multicolores.

L'espace d'un moment, replongez-vous dans cette époque où l'on sentait dans les laboratoires les odeurs mélangées de bois, de lampes grillées et de tabac à pipes. Puis ouvrez les yeux, allumez votre décamétrique et lancez un "CQ Contest".

Bonne lecture et cordiales 73 !
Vincent FAUCHEUX, F5SLD
ham.france@free.fr

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N°4

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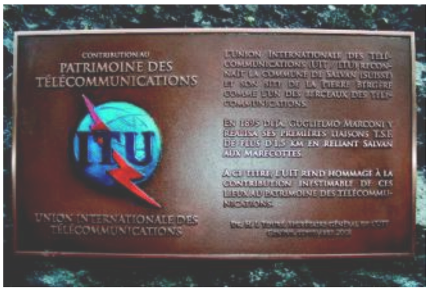
Remerciements à **F10945, F14368, F1OK, F4ESK, F4EMK, F4FKJ, F5RCT, F5IRO, F5RRO, F6EJU, F6HQY, ON3MAJ, HB9DVD, HB9HFL, Jérôme**.

Merci aux différents annonceurs qui nous accordent leur confiance et à tous les O.M. qui nous ont envoyé des messages de soutien. Pardon à ceux que j'aurais oubliés...

N'hésitez pas à nous envoyer vos infos, vos avis et vos suggestions.
Mail : ham.france@free.fr
Nous incitons nos lecteurs à ne pas copier et envoyer cette revue à leurs amis mais plutôt les inviter à s'abonner. C'est gratuit et sans publicité intempestive.
N'oubliez pas que ce magazine a été réalisé par **des bénévoles** au détriment de leurs heures de loisirs et de trafic.
ERRATUM : Les dates du contest ARRL 10m sont les samedi 13 et dimanche 14 décembre et non celles affichées dans HAM-MAG N°3. Merci à F4FKJ

U.I.T. MARCONI 2008



CONTRIBUTION AU
PATRIMOINE DES TÉLÉCOMMUNICATIONS

ITU

UNION INTERNATIONALE DES TÉLÉCOMMUNICATIONS

L'UNION INTERNATIONALE DES TÉLÉCOMMUNICATIONS (UIT / ITU) RECONNAÎT LA COMMUNE DE SALVAN (SUISSE) ET SON SITE DE LA PIERRE BERGÈRE COMME L'UN DES BERCEAUX DES TÉLÉCOMMUNICATIONS.

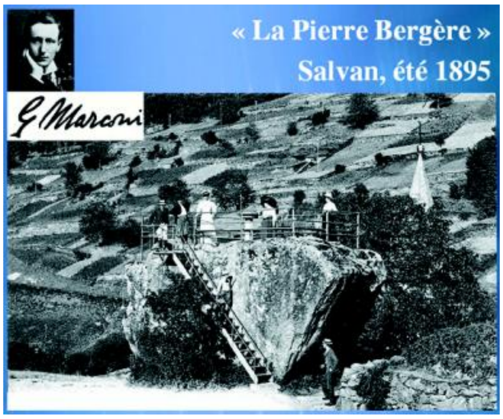
EN 1895 DÉJÀ, GUGLIELMO MARCONI Y RÉALISA SES PREMIÈRES LIAISONS T.S.F. DE PLUS D'1,5 KM EN RELIANT SALVAN AUX MARÉCOTTES.

À CE TITRE, L'UIT REND HOMMAGE À LA CONTRIBUTION INESTIMABLE DE CES LIEUX AU PATRIMOINE DES TÉLÉCOMMUNICATIONS.

Pour la première fois de son histoire, l'U.I.T., l'Union Internationale des Télécommunications a reconnu pour sa contribubution inestimable un site au patrimoine des télécommunications. La «Pierre Bergère» à Salvan en Valais a reçu cette distinction ce 26 septembre 2008 grâce aux essais de TSF de Guglielmo Marconi. C'est durant l'été 1895, après ses premiers essais en Italie à la Villa Griffone à Pontecchio près de Bologne, que Marconi séjourna dans la «station climatérique» de Salvan dont la réputation avait largement dépassé les frontières de la Suisse. Avec l'aide de Maurice Gay-Balmaz, un jeune ressortissant de Salvan, Marconi y travailla durant l'été pour parvenir, après de nombreux essais, à envoyer un message radio de Salvan aux Marécottes (1,5 km).

Pour fêter cet évènement, la Fondation Marconi et l'UIT ont invité diverses personnalités ainsi que les radioamateurs à cette merveilleuse fête.

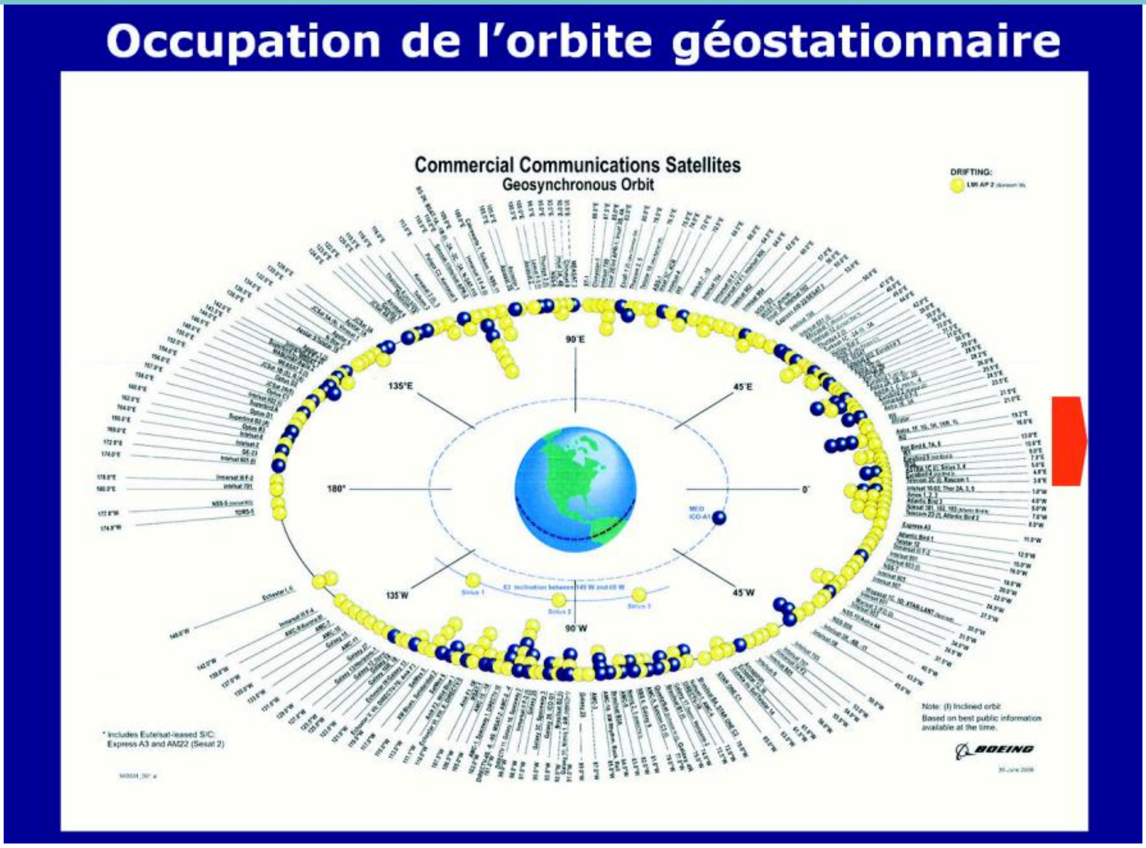
Prof. Fournier Président de la Fondation



Le colloque scientifique, animé par Yves Fournier, historien et Président de la Fondation Marconi à Salvan («les aléas de l'histoire orale»), les professeurs de l'EPFL Juan R. Mosig (« Ondes électromagnétiques et antennes - quel progrès depuis Marconi ?»), Fred Gardiol (« Les antennes sont elles dangereuses pour la santé ?») et Pierre Zweiacker («Nathan B. Stubblefield - un plaidoyer pour l'anecdote») fut suivi par une centaine de personnes M. Fabio Silva Leite, Directeur adjoint du Bureau des Radiocommunications de l'UIT, a conlu cette partie par un exposé consacré à « La réglementation de la radiocommunication - enjeu du XXIème siècle », la situation actuelle et future des télecommunications.

Fabio Leite, dir. adjoint du BR de l'UIT

Carte des satellites qui tournent autour de notre planète
Entre 14 et 15h - région Europe


Occupation de l'orbite géostationnaire
Commercial Communications Satellites
Geosynchronous Orbit
DRIFTING:
90°E
135°E
45°E
180°
0°
135°W
45°W
90°W
BOEING

La partie officielle qui a suivi s'est déroulée sur le site de la «Pierre Bergère».

Plusieurs orateurs se sont succédés au micro : MM. Roland Voeff ray , président de de la Commune de Salvan, Yves Fournier, président de la Fondation Marconi, Claude Roch, conseiller d'Etat, le secrétaire général de l'UIT, le Dr Hamadoun I. Touré (HB9EHT) et Pascal Couchepin, président de la Confédération.

Le premier a dit tout l'honneur que Salvan ressentait à l'idée d'être le premier site à entrer au patrimoine des télécommunications. Alors que le deuxième a abordé l'histoire de Salvan et de Marconi, le ministre de l'Education valaisanne a dressé le portrait d'un ingénieur modèle pour la jeunesse valaisanne. Le Dr Touré a émaillé son discours de quelques touches d'humour : «Qui n'a pas de téléphone mobile dans sa poche aujourd'hui ? Je crois savoir que la seule personne qui n'en a pas ici, c'est le président Couchepin.» Celui-ci a répondu par un sourire approbateur. Puis le secrétaire général est revenu sur l'attitude des Italiens qui ont boudé la cérémonie. «Toutes les grandes inventions sont sujettes à controverse. Celle de Marconi n'échappe pas à la règle. Il est indéniable qu'il a fait ses premières expériences chez lui, en Italie. J'espère d'ailleurs me rendre sur ses terres l'an prochain, à l'occasion du centenaire de son Prix Nobel de physique. L'UIT tentera d'apaiser ces tensions. » Pascal Couchepin enfin, déjà présent sur la Pierre Bergère il y a 5 ans, à l'occasion de la première reconnaissance internationale accordée à Salvan par la commision historique internationale de l'IEEE, a souligné le caractère universel du génie de Marconi. « Il n'y a pas de civilisation, de race ou de pays supérieur à un autre. La science est universelle, mais il se trouve qu'elle se fait dans des lieux précis. Salvan est l'un d'eux.»

Prof. Fournier
M. Zhao UIT
M. le Président Couchepin
Dr. Touré UIT
HB9DVD Marc Président USKA-VS
et HB9IQY Dani Président USKA-CH

M. le Président
Couchepin

HB9IQY Dani Président USKA-CH
HB9DVD Marc Président USKA-VS
HB9TTQ Stefan trafic manager USKA
pour les communications d'urgence

M. le Président Couchepin
Prof. Fournier
Dr. Touré UIT dans la foule

Dr. Touré UIT
M. Zhao UIT
HB9IQY Dani Président USKA-CH

HB9IQY Dani Président USKA-CH
signant le livre d'or du musée
Marconi à côté de la station HB9GM.

HB9RXV Paul
Mme Bogdan UIT
Dr. Touré UIT

Merci aux nombreux invités présents à cette fête, merci à l'UIT pour cet honneur et merci aux différents intervenants.
Photos/article: HB9DVD, Marc Torti , membre du Conseil de la Fondation Marconi, sept. 2008.
http://www.radioamateur.ch http://plc.radioamateur.ch http://www.fondation-marconi.ch

•1008• Prix TTC valables pour le mois de parution - Port en sus

Emetteur-Récepteur FT-950

pour le DX exigeant HF/50 MHz 100w

YAESU
Le choix des DX-eur's les plus exigeants !

Garantie 2 ans sur matériels Yaesu radioamateur

- **Récepteur à triple conversion super-heterodyne, 1ère fréquence intermédiaire à 69.450 MHz.**
- **Roofing filter de 3 kHz sur la 1ère fréquence intermédiaire.**
- **Un synthétiseur digital direct (DDS) ultrarapide et un PLL digital permettent un oscillateur local aux performances exceptionnelles.**
- **Cinq mémoires de message vocaux avec le DVS-6 optionnel.**
- **Grand affichage multicolore lumineux et parfaitement contrasté.**
- **Le DSP Yaesu est sur une fréquence intermédiaire. Il permet une réception confortable et efficace.**
- **Le DSP agit en émission et améliore la qualité des modulations BLU et AM. Le FT-950 dispose d'un égaliseur paramétrique sur le microphone et un processeur de parole.**
- **Le FT-950 intègre d'origine un oscillateur haute stabilité (TCXO) ± 0.5 PPM après 1 minute à 25 °C.**
- **Boite d'accord automatique intégrée d'origine avec 100 mémoires.**
- **S'alimente en 13,8 VDC - 22 A**

Dimensions :
365mm x 115mm x 315mm
(LxHxP)

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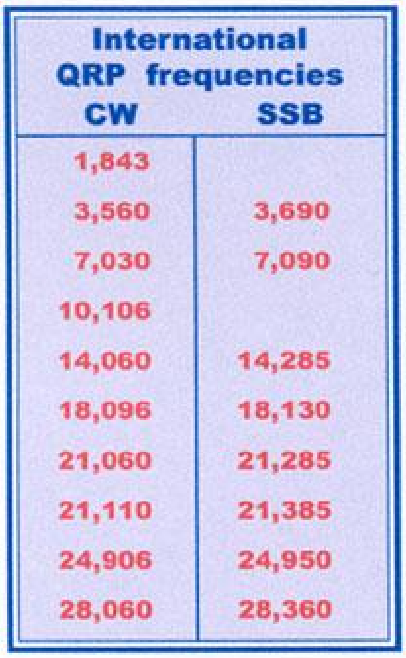
TUNA Tin francisé par F6EJU



International QRP frequencies

CW	SSB
1,843	
3,560	3,690
7,030	7,090
10,106	
14,060	14,285
18,096	18,130
21,060	21,285
21,110	21,385
24,906	24,950
28,060	28,360

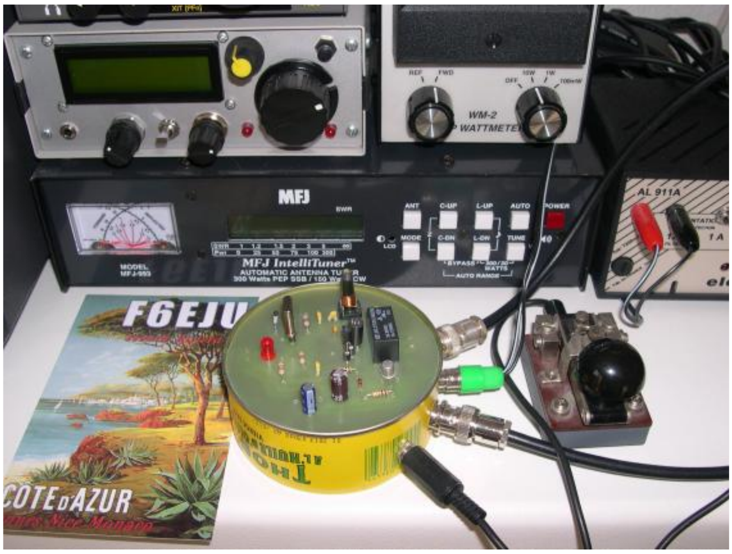
Emetteur télégraphie à un seul transistor 250 milliwatts.
Ou le « Tuna Tin » Francisé et comment s'amuser
avec peu de choses.

Depuis toujours je voulais réaliser un émetteur en télégraphie «cw» utilisant un seul transistor et le plus simple possible.

Après des recherches sur Internet je trouvais un article de VE7SL ainsi que l'histoire de ce montage.

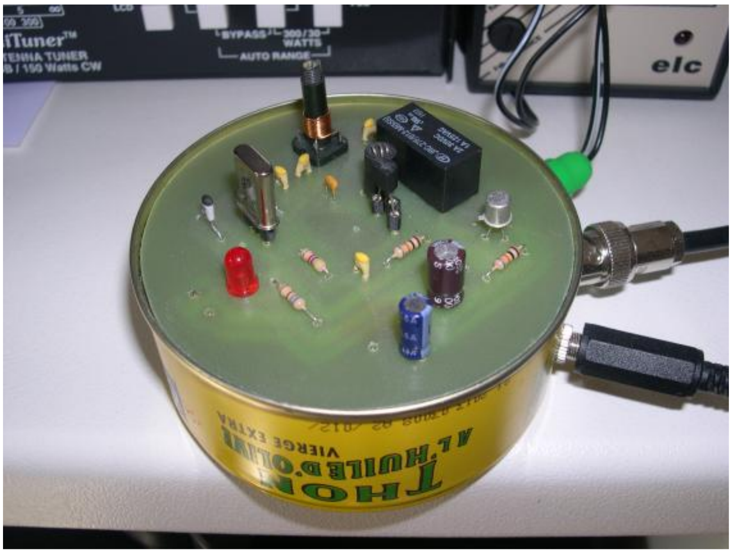
Le premier « TunaTin » boite de Thon, aurait vu le jour aux Usa en 1976 d'une idée de W1CER, ce montage utilisait deux transistors.

Puis plus tard K4TWJ ressorti cette idée de boite de thon servant de boîtier support à l'émetteur.
Il y a là l'humour de nos amis US et aussi UK.



Les recherches me portèrent sur le dessin de VE7SL qui a contacté tous les états US avec ce montage donné ci-dessous et utilisant un seul transistor.
La commutation d'antenne se fait à la main au moyen d'un interrupteur fixé sur la boite de conserve.

Voir son site :
http://www.imagenisp.ca/jsm/Tuna.html



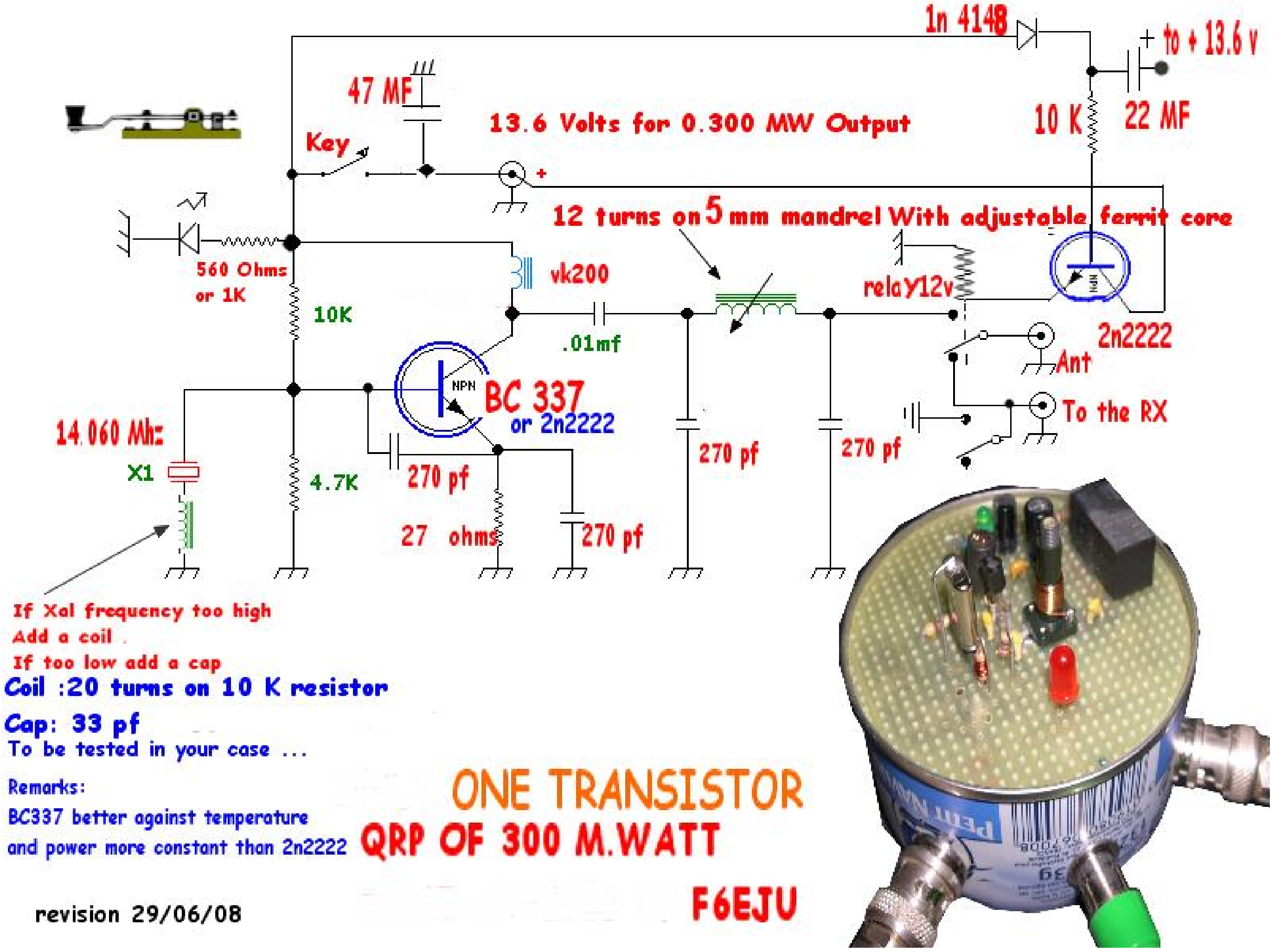
TUNA TIN 2 - Made in U.S.A.

Montage à la française.

J'ai alors fait un circuit imprimé définitif et ai apporté quelques modifications qui ont permis d'obtenir les 250 à 300 milli watts.

- Une bobine à noyau réglable pour avoir le maximum d'adaptation et de puissance.
- Un moyen de varier et ajuster la fréquence sur celle d'appel.
- Un transistor donnant un fonctionnement plus stable
- Commutation automatique Tx / RX au moyen d'un 2n2222 et d'un micro relais.
- Une belle diode rouge qui clignote… Hi
- Une capa entre base et émetteur du BC 337
- Une résistance de 27 ohms sur l'émetteur pour avoir 300 m.w sous 13.5 volts.
- Et surtout une boite de thon à l'huile Française !!!!

Voilà le schéma ci-dessous, bon bricolage.
F6EJU, Jean-claude



ACTIVATION "SOTA" AU MONT JARA (Pays Basque)

Par F4EMK

Bonjour,

Le dimanche 10 AOUT, j'ai activé avec Jean-Michel F4FNP le Mont JARA au pays basque à 805m d'altitude (Référence SOTA F/PO263). Nous laissons notre véhicule au village d'IROULEGUY (dép. 64) et nous commençons la montée qui est très agréable car le wx est de la partie. Après 1h30 de marche nous arrivons au sommet où le panorama est splendide, une vue dégagée a 360 °, et nous pouvons apercevoir la côte basque et toute la chaîne des Pyrénées.

Pour cette activation SOTA nous avons monté une nouvelle antenne VHF, une 4 éléments DK7ZB, une petite batterie de 7ah et mon fidèle FT817.

En écoutant la fréquence je m'aperçois qu'il y a du monde et que la propagation est au rendez vous.

Après 1H30 de trafic intense (HI !), le bilan est très satisfaisant 53 QSO dont 3 en UHF et 2 stations ON à plus de 800kms.

J'espère refaire bientôt une aussi belle activation SOTA car avec **4W** nous nous sommes bien amusés. Le temps passe vite et nous devons penser à redescendre.

La vidéo de l'activation est visible sur mon blog **http://f0emk.over-blog.com**

73 à tous et à bientôt pour de nouvelles aventures en SOTA.
Frédo F4EMK

Info : pylones-dekerf@skynet.be

1966 - 2008
42 Ans

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RCC TOUJOURS LE MOINS CHER !

- ECO ART 274 verticale " HF8 " 40-30-20-17-15-12-10 m - 1 kW = 325 € (au lieu de 369 €)
- ECO ART 230 verticale de 10,20 m de haut pour le 40 m = 119 € (au lieu de 129 €)
- ECO ART 78 yagi 3 él. 10-15-20 m - 1 kW, livrée avec balun (pas en option !) = 360 € (au lieu de 389 €)
- ECO ART 247 yagi 2 él. 40-20 m - 26 kg -1,5 kW, livrée avec balun = 549 € (au lieu de 599 €)
- ECO ART 66 ant. mobile 80-40-20-15-10 m - haut. 1,75 m + embase + câble = 110 € (au lieu de 115 €)
- ECO ART 54 yagi 4 élements 144 MHz pour le portable = 34 €
- CONNECTEUR PL TEFLON 11 mm ou 6 mm à 3 €/pièce, BALUN 300 W 1/4 ou 1/6 pour filaire = 35 €
- ISOLATEURS pour antennes filaires : modèle standard = 2 € et modèle QRO = 3 €
- DIAMOND X 510 N antenne verticale VHF/UHF fibre de 5,20 m de haut = 134 €
- DIAMOND X 200 N antenne verticale VHF/UHF fibre de 2,50 m de haut = 91 €
- BELDEN H 2000 coax 11 mm super qualité = 2,99 €/m - H 155 coax 6 mm = 1,79 €/m
- YAESU GS-65 roulement cage rotor QRO = 61 € - GS-50 = 42 €
- GEAR KEEPER RT2 astucieux "repose micro" suspendu pour le mobile = 17 €
- UNIDEN UBC 785 XLT récepteur scanner de base/mobile de 25 à 1,3 GHz = 275 €
- ICOM IC-2200H superbe mobile VHF - 65 W analogique/numérique(option) = 225 €
- ICOM IC-7000 mobile à DSP sur FI de 0 à 470 MHz tous modes, écran LCD couleur = 1395 €

SUPER PROMO SUR L'ALIMENTATION DIAMOND GZV 4000

GZV 4000 159 €* !!!.!!!

À CES TARIFS LÀ, IL FAUT ACHETER D'ABORD ET RÉFLÉCHIR ENSUITE !!!!!!!

SUPER PROMO sur GZV 4000
- 40 vrais ampères (la protection entre en action à 45 A)
- Tension réglable de 5 a 15 V
- Voltmètre/ampèremètre en face avant
- Ventilée
- Borniers en face avant (+ prise allume cigare) et aussi en face arrière
- Petit haut-parleur incorporé (livré avec prise jack 3,5 mm à souder)
- Prise de terre d'origine (pas comme sur les Alinco...) et le moins n'est pas flottant (encore Alinco...)
- Technologie à découpage fiable et "propre" (ne génère pas de QRM comme les Alinco...)
- Garantie 1 an pièces et main-d'œuvre

* Si vous trouvez moins cher (en France) dans les 15 jours suivant l'achat, RCC vous rembourse la différence !!!!

NOUVEAU : BOUTIQUE EN LIGNE SUR WWW.RCC34.FR
CB, ACCESSOIRES, ANTENNES... POUR TOUTES DEMANDES, CONTACTEZ OLIVIER AU 04.67.41.49.77

F5IRO

Les infos DX

F5SLD

SPECIAL CQWW DX SSB les 25 & 26 octobre

Début du contest samedi 25 à 00H00 TU
Fin du contest dimanche 26 à 24h00 TU
Echange : RST + Zone (14 pour le France)

Liste des stations actives avec l'info QSL

4L, GEORGIE

4L0A QSL via EA7FTR.

8P, BARBADES

8P5A QSL via NN1N.

9K, KOWEIT

9K2HN QSL voir QRZ.com

AH0, ILES MARIANES

AH0BT QSL via 7L1FPU.

AO8, ILES CANARIES

AO8A QSL via OH1RY

BX5, TAIWAN

BX5AA . QSL via BX5AA.

CW5, URUGUAY

CX6VM. QSL via CX6VM.

HC5, EQUATEUR

HD5J QSL via JA6GCE

HI, REPUBLIQUE DOMINICAINE

HI3T. QSL via ON4IQ.

HQ2, HONDURAS

HQ2W. QSL via HR2DMR.

AF-019. ITALIE, ILE LAMPEDUSA.

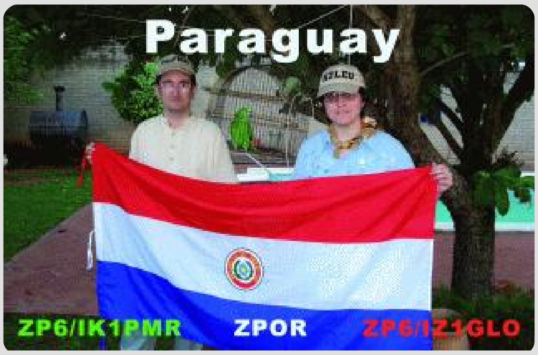
IG9X (sur 80m). QSL via IK1QBT

KH2, GUAM (OC-026)

KH2/KG6DX. QSL via KG6DX, CBA, QRZ.com et sur LoTW.

LX, LUXEMBOURG

LX2A. QSL via Bureau, en direct et LoTW (pas d'EQSL). Page Web : http://www.lx2a.com



P3, CHYPRE

P33W. QSL via RA3AUU

P4, ARUBA

P40A. QSL via WD9DZV

TC4, TURQUIE

TC4X. QSL via OH2BH.

TO8, MARTINIQUE

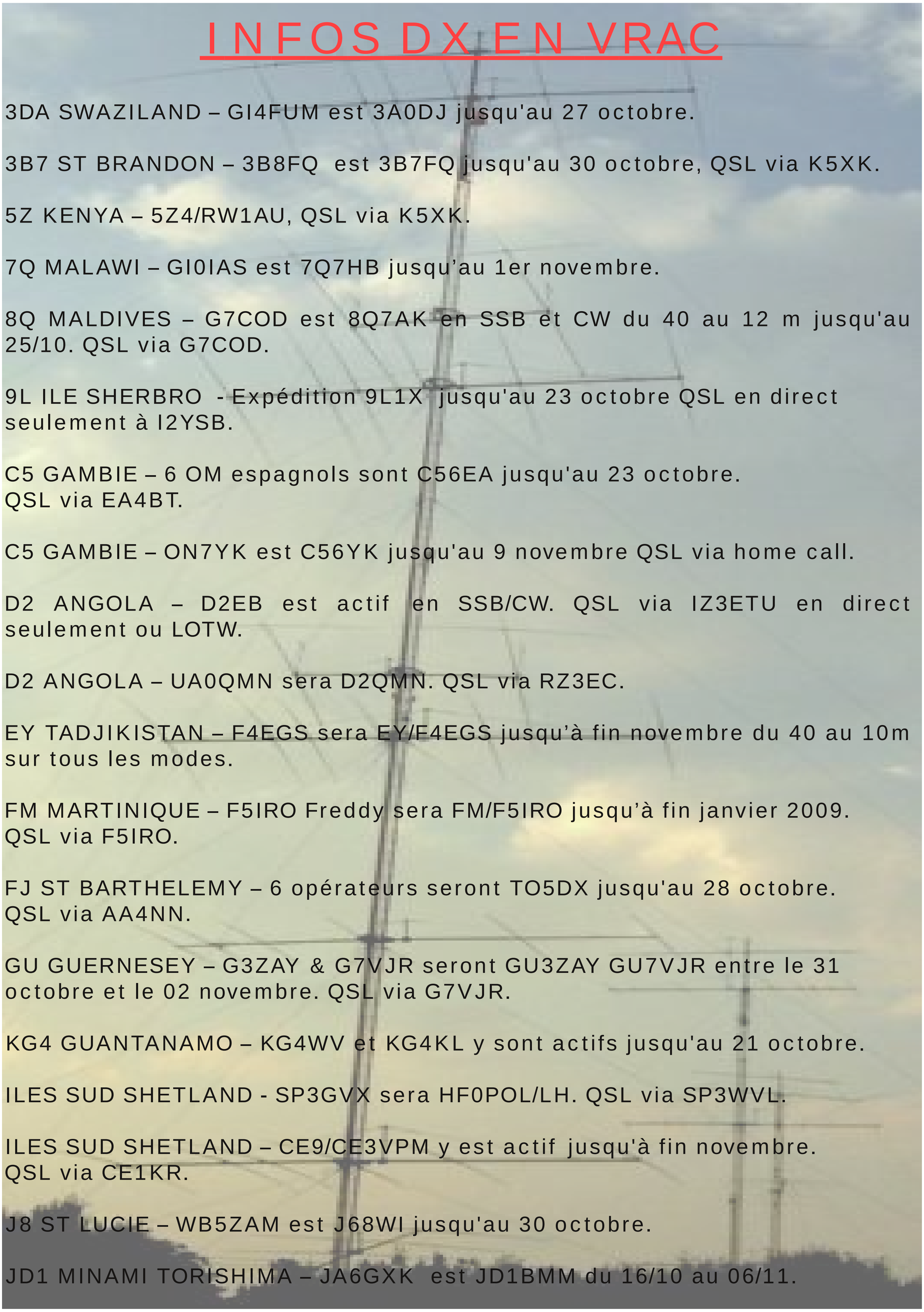
TO8Z. QSL via VE3TG

VP2, ANGUILLA

VP2EC. QSL via N5AU

ZP0, PARAGUAY

ZP0R. QSL via ZP5AZL. Site Web : http://www.qsl.net/cx6vm/ZP5AZL



INFOS DX EN VRAC

3DA SWAZILAND – GI4FUM est 3A0DJ jusqu'au 27 octobre.

3B7 ST BRANDON – 3B8FQ est 3B7FQ jusqu'au 30 octobre, QSL via K5XK.

5Z KENYA – 5Z4/RW1AU, QSL via K5XK.

7Q MALAWI – GI0IAS est 7Q7HB jusqu'au 1er novembre.

8Q MALDIVES – G7COD est 8Q7AK en SSB et CW du 40 au 12 m jusqu'au 25/10. QSL via G7COD.

9L ILE SHERBRO - Expédition 9L1X jusqu'au 23 octobre QSL en direct seulement à I2YSB.

C5 GAMBIE – 6 OM espagnols sont C56EA jusqu'au 23 octobre.
QSL via EA4BT.

C5 GAMBIE – ON7YK est C56YK jusqu'au 9 novembre QSL via home call.

D2 ANGOLA – D2EB est actif en SSB/CW. QSL via IZ3ETU en direct seulement ou LOTW.

D2 ANGOLA – UA0QMN sera D2QMN. QSL via RZ3EC.

EY TADJIKISTAN – F4EGS sera EY/F4EGS jusqu'à fin novembre du 40 au 10m sur tous les modes.

FM MARTINIQUE – F5IRO Freddy sera FM/F5IRO jusqu'à fin janvier 2009.
QSL via F5IRO.

FJ ST BARTHELEMY – 6 opérateurs seront TO5DX jusqu'au 28 octobre.
QSL via AA4NN.

GU GUERNESEY – G3ZAY & G7VJR seront GU3ZAY GU7VJR entre le 31 octobre et le 02 novembre. QSL via G7VJR.

KG4 GUANTANAMO – KG4WV et KG4KL y sont actifs jusqu'au 21 octobre.

ILES SUD SHETLAND - SP3GVX sera HF0POL/LH. QSL via SP3WVL.

ILES SUD SHETLAND – CE9/CE3VPM y est actif jusqu'à fin novembre.
QSL via CE1KR.

J8 ST LUCIE – WB5ZAM est J68WI jusqu'au 30 octobre.

JD1 MINAMI TORISHIMA – JA6GXK est JD1BMM du 16/10 au 06/11.

KH8 SAMOA US – DL2AH y est actif jusqu'au 27 octobre.

OD LIBAN – F5TLN sera OD5/F5TLN jusqu'en février 2009. QSL via F5TLN

ON BELGIQUE – call spécial ON50WAASLAND pour le 50ème anniversaire de l'UBA. QSL via ON6WL

PJ4 BONAIRE – PJ4/N0VD, PJ4/K5GS, PJ4/K6AM et PJ4/WK4Y y sont actifs jusqu'au 29 octobre. Ils seront PJ4E au CQWW DX contest.

T31 CENTRAL KIRIBATI – JA8BMK sera T31DX jusqu'au 30 novembre.
QSL via JA8BMK.

T33 BANABA – JA8BMK sera T33ZZ jusqu'au 23 octobre. QSL via JA8BMK.

T8 PALAU – JA7RPC et JF7RKV seront T88RP et T88SB jusqu'au 20 octobre QSL via home call.

TT TCHAD – E78A est TT8JT jusqu'au 18 novembre QSL via E73Y.

UR – EM65QM : call spécial pour la célébration du 65ème anniversaire de la fin de l occupation nazi jusqu au 26 octobre. QSL via UR7QM

VU7 – DL9GFB, DJ8NK, DF7TT et VU2JOS seront VU7SJ depuis l'île agatti du 24 octobre au 03 novembre. QSL via DL9GFB.

dans le même temps VU2UWZ & VU2NIS seront VU7NRO depuis Kadamat (AS-011). QSL via VU2UWZ.

VK AUSTRALIE – VK2LNX et VK2FSN seront QRV 6 mois en OC-233

VK9W ILE WILLIS – Un groupe d'opérateurs est VK9DWX jusqu au 27 octobre. QSL via DJ2MX.

VP8 GEORGIE SUD – DL9LB est VP8DIF tout le mois d’octobre.

VR HONG KONG – F4BKV sera VR2/F4BKV jusqu au 30 août 2009.

CQ-Zone 27 ITU-Zone 64 IOTA OC-009 GL PJ77FI
T8ØW
Koror Rep. of Palau
Greetings from IMPAC Palau Rental Shack

L'O.M. de la semaine

Cette semaine, nous vous présentons la station d'un OM SWL
F10945 - Sébastien

Bonjour,
Je me prénomme Sébastien, j'ai 39 ans. Je pratique la radio depuis l'age de 15 ans. J'ai commencé avec un Talkie Walkie mal accordé qui me permettait de recevoir tout ce qui se trouvait à proximité du canal 11. J'ai commencé à entendre les routiers ; pour mieux les recevoir, j'ai déroulé un fil électrique qui faisait le tour de la maison de mes parents et j'ai scotché le bout sur l'antenne du Talkie... (je devais être accordé sur le 40 mètres). N'empêche qu'avec ma super antenne, j'ai entendu encore plus de routiers et même des taxis et ambulances...
Une véritable passoire ce Talkie Walkie...

Finalement il était quand même pas mal car je n'avais même pas besoin de tourner le vernier pour capter tout ce qui était à proximité....
Bon !!! et ensuite...J'ai rencontré un copain au collège qui avait un superstar 120 !!!! Alors là, rien que d'y penser j'en ai le coeur qui palpite !!! J'étais toujours fourré chez lui pour le voir discuter avec des inconnus. J'ai appris tout le code Q pendant cette période et plus tard........ Mes parents m'ont offert un superstar 120 pour Noel !!!! Mon plus beau noël... Le début des ennuis avec mes parents... 2 jours après avoir eu mon Merveilleux cadeau de noël, j'ai annoncé à mes parents qu'il fallait absolument retourner au magasin pour changer ce superstar 120 contre un 360, car j'avais besoin d'avoir la BLU... Ne voulant pas me vexer et surtout ne comprenant rien à mes doléances, ils se sont exécutés pour faire plaisir au petit dernier...

Après avoir eu mon poste flambant neuf Superstar 360... Je leur ai annoncé qu'il fallait une antenne pour que ça fonctionne... Je coupe le développement et j'arrive à la conclusion... J'ai donc eu une antenne Lemm V3 sur un mat de 12 mètres....... Brouillant la télé des voisins, j'ai indiqué à mes parents qu'avec une BT 104, le problème n'existerait plus, j'ai donc eu cette antenne.... J'ai continué de brouiller les voisins, mais bon l'idée de la CB est de communiquer, je pouvais donc communiquer avec mes voisins sans qu'ils aient besoin d'investir dans un récepteur spécifique... Une télé ou un poste radio suffisait pour m'entendre !!!

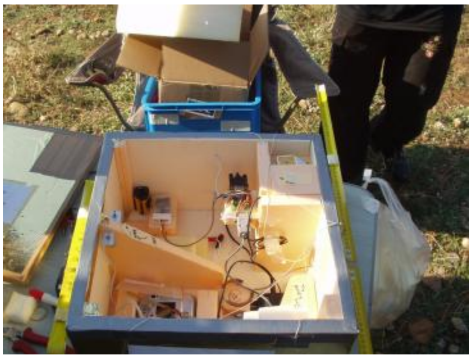
Quand j'ai senti le point de non retour approcher, j'ai décidé d'installer mon 360 sur ma mobylette !!! J'ai été jusqu'à installer une antenne Paris Dakar sur ma mob !!! J'ai commencé à faire du DX, des expéditions... Je ne vivais que pour ça.... Mon frère allait en boite de nuit, moi je restais devant le poste car le SURINAM allait peut-être passer.... Pas le temps non plus de faire mes devoirs car si on veut rentrer dans le club des Alpha Tango il faut contacter au minimum 10 pays (je crois....) et si on veut passer en classe 1, il faut 50 pays, donc pas le temps de batifoler avec les filles...

Les filles... Si j'ai quand même dû trouver le temps de draguer (certainement quand il n'y avait pas de proprag) car je me suis marié et j'ai eu 2 enfants.... Le tout à fini par un divorce car j'ai continué à m'isoler pour mieux m'ouvrir au monde extérieur.... Je faisais de la phonie, du packet du décodage, de la CW... Le Week-end, je fréquentais les club Radio Amateurs ; les vacances étaient sur le thème de la radio... Transmissions avec les copains restés en région parisienne et l'après-midi randonnée pour aller découvrir les relais Radio Amateurs.... Donc DIVORCE...
1 de perdue... 1 de retrouvée, mais cette fois plus trop de radio... Mais la pêche... Excessif !!! donc rupture !!!!
1 de perdue... 1 de retrouvée... J'en suis là aujourd'hui !!!! J'essaye maintenant de mêler la radio et ma vie familiale, et c'est dur...
C'est pourquoi je me suis axé surtout sur le décodage de transmissions numériques, SSTV, DRM, FAX, Images satellite, PSK 31 etc. Les ordinateurs tournent sans ma présence et retransmettent sur mon site internet puis sur un forum privé les images que les postes radio ont reçues. J'ai juste à regarder de temps en temps...
Je vous communique l'adresse de mon site internet :
http://www.laviedelaradio.fr

73 à Tous !
sébastien, F10945

BOUFIGO 7

Bonjour, un petit résumé du laché et recherche de la Boufigo 7 avec les photos.



Samedi 11 octobre 2008, à l'aérodrome de Salon - Eyguière, dès 7h du matin, les OM's se sont activés à mettre en place le PC radio et suivi de la Boufigo dans l'algéco qui nous est gracieusement prêté par les résponsables du terrain. Déjà la 7ème édition ! une version plus "light" cette fois-ci, c'est à dire sans camescope et ATV mais uniquement des photos . C'est une boufigo dite de transition ...

La mise en place de l'aire de lancement s'effectue normalement , les préparatifs de chaque acteur également jusqu'au coup de 600 donné à l'aviation civile. En effet, on nous demande de repousser notre lancement à 12h locale au lieu des 10h prévu et ceci à cause de plusieurs sauts de parachutistes prévus . Il faut dire que le WX est superbe, pas de nuages et une température matinale fraiche de 14°C qui atteindra les 25°C dans l'après midi . Nous sommes donc dans l'attente . Deuxième coup de téléphone et lancement repoussé de nouveau à 12h45.

A 12h59, enfin, notre boufigo s'envole dans le ciel bleu de provence, son ascension va durer moins de 2h jusqu'à l'éclatement du ballon à 14h54 à une altitude de 29 944 m . La redescente s'effectue au grès des nombreux courants à cette altitude et l'on peut voir sur la carte APRS les nombreux va et viens de la nacelle !

C'est vers 16h30 que la boufigo 7 a été retrouvée par Gérard F1GUW, dans un verger, accrochée à un arbre fruitier à l'Est d'Avignon (dpt84) .

Les photos sont de **F4ESK** plus une photo (parmi plusieurs centaines) prise de la nacelle à 10 000 m d'altitude .

A bientôt

73 QRO de Patrice F4ESK

http://f4eskpatrice.unblog.fr/

http://adref13.unblog.fr/

Lieu insolite

Cette semaine, Jean-matthieu, F5RCT nous présente :

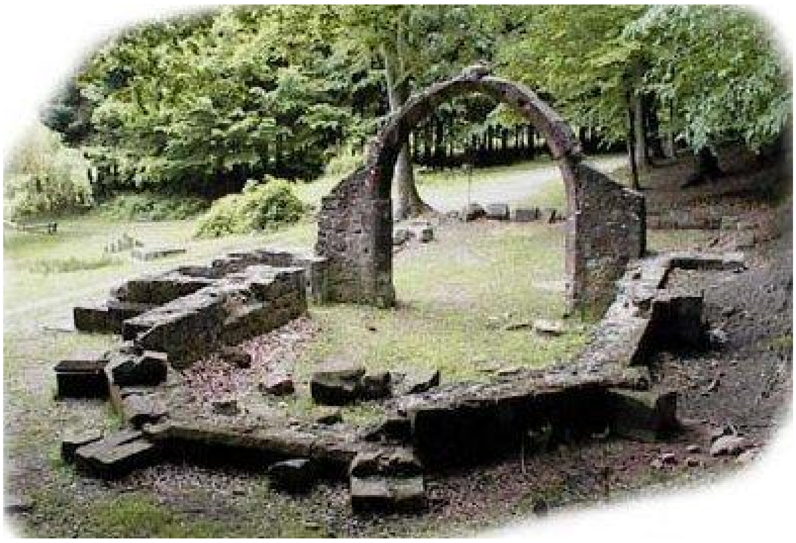
CLIMBACH (Vosges 88)

Radioamateur depuis près de 20 ans j'ai découvert il y a 6 ans ma sensibilité à trouver des sources et ressentir les forces telluriques. L'Alsace était une terre de nos ancêtres les Celtes. Comme en Bretagne, on y trouve des menhirs, des dolmens, cercles de pierres et beaucoup de lieux de cultes qui ont été conquis par le christianisme et transformés en chapelles et églises. Je vous propose ce petit détour dans la forêt Vosgienne du Nord de l'Alsace. Laissez vos radios un instant de côté et vous redécouvrirez vos sensations !

Ce village appartenait à la seigneurie des Puller de Hohenburg jusqu'en 1482, puis aux seigneurs de Sickingen jusqu'à la Révolution Française.
Il est situé au cœur du massif du Hochwald, dans les Vosges du Nord, à une altitude de 355 mètres.
Climbach est une bourgade montagnarde et pittoresque, ceinturée d'une belle forêt de 520 hectares. De Soultz-Sous-Forêts on y accède par le col du Paffenschlick.

La chapelle KAPPELBRONN et sa source CLIMBRONN

Les ruines de la chapelle dominent le village. L'histoire de cette chapelle dit que ce sanctuaire chrétien aurait été construit sur un sanctuaire païen et une première chapelle en bois aurait été édifiée par un ermite, Richard, à la fin du XII ou au début du XIIIème siècle. La réputation de sa source, dite Climbronn, pour ses propriétés curatives, fît qu'au Moyen Age le site devint un lieu de pèlerinage. Seule la petite source qui coule au pied des vestiges du sanctuaire est restée célèbre, d'où le surnom du site: Kappelbronn, la fontaine de la chapelle.

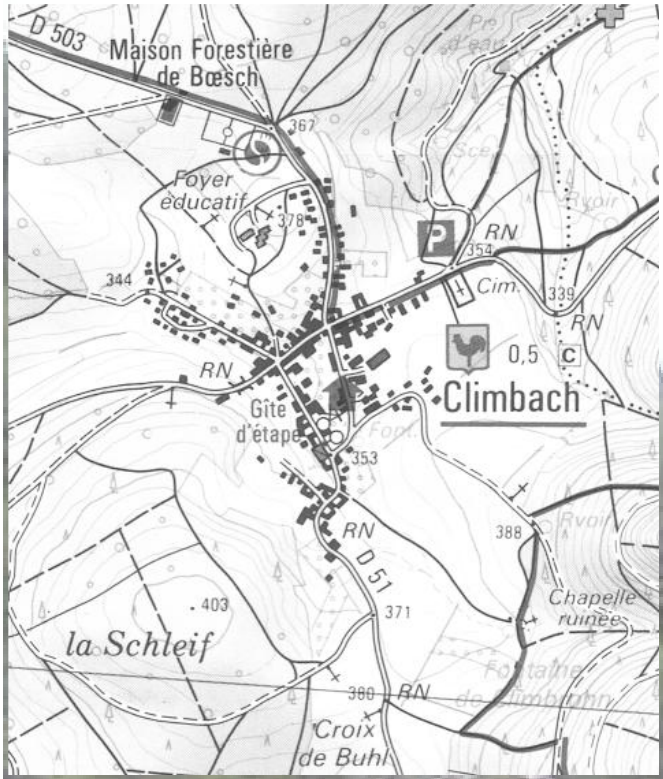


Une deuxième chapelle, en grès rose, fut construite sur le site, un siècle plus tard, par les moines Cisterciens de Pfaffenbronn. La reconstruction fut entreprise au XIV° siècle et ce sont les vestiges de cette époque qui subsistent encore aujourd'hui. Selon une autre version ce seraient les habitants de Climbach eux-mêmes, qui, vivant sous la protection des Seigneurs du Fleckenstein, auraient édifié cette chapelle en l'honneur de Saint Fridolin et de la Sainte Vierge. Comme par miracle, l'arc triomphal enjambe toujours l'espace et marque le lieu.

En revanche toutes les théories s'accordent à reconnaître qu'elle fut probablement détruite au cours de la Guerre de Trente Ans par l'armée Suédoise. Il semble également que c'est à cette époque que les survivants du village, qui se tenait sur les hauteurs, se sont réfugiés à Wingen (commune voisine) et que leur successeurs, protestants, les Seigneurs du Fleckenstein étant devenus Luthériens, s'établirent plus bas dans la vallée à l'emplacement du village actuel. Avec l'introduction de la Réforme dans la contrée, le pèlerinage tomba dans l'oubli et en ruine.

Les fouilles ont permis de déterminer que cette chapelle avait une nef de 11,80 m de long pour 8,20 m de large, accolée à un chœur de 7,70 m de long, à l'ouest duquel était accolée une sacristie. Seuls subsistent aujourd’hui l’arc ogival séparant l’ancienne nef du chœur et une partie des murs de la chapelle du XIVème siècle.

Source d’informations : recherche sur google « Climbach » et « pays de Wissembourg »
Club Vosgien de Soultz-sous-Forêts / Merkwiller



Mes impressions :

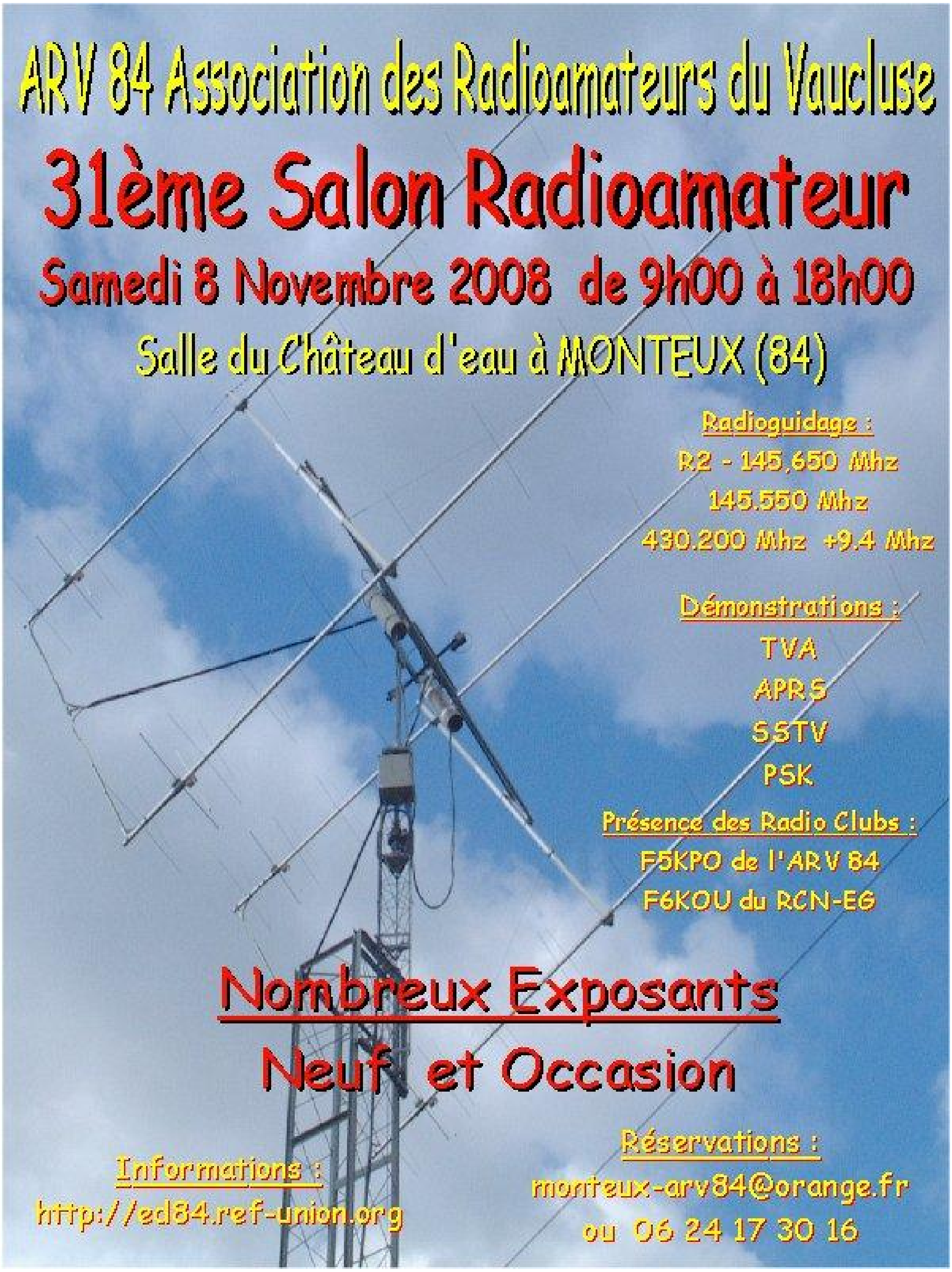
Pour accéder à ce lieu, je suis passé par le col du Paffenschlick. La route (D51) qui arrive à Climbach passe par les champs et vergers. La chapelle et la source se trouvent au Sud-Est du village à la lisière de la forêt à environ 10 min à pied. On y accède par le centre du village en remontant la rue derrière les églises qui finit en chemin de terre. Un petit parking se trouve face à un réservoir d'eau enterré, puis prendre le chemin qui descend à la chapelle. Ou bien, au plus court, de la route avant de descendre vers le village, prendre le chemin en face d'un calvaire orné de conifères : Croix de Buhl. A l'entrée de la forêt, c'est à gauche en descendant. L'arrivée à la chapelle est marquée par cet arc de pierre qui tient toujours et semble défier le temps ! Au niveau du cœur, j'ai mesuré une énergie très forte et bienfaisante, la «vibration couleur » est le vert + m. Le cœur et l'autel sont placés sur un croisement de rayons telluriques. La source passe sous la nef vers le milieu, quand on reste sur le passage de la source on se sent déséquilibré par le flux. J'y ai déjà initié avec succès des personnes qui ont trouvé pour la première fois la sensation de trouver de l'eau avec une branche formant un Y tenu à l'envers dans les mains.

En contre-bas, la source a été canalisée et sort par une fontaine. La « vibration couleur » de l'eau de la fontaine est indigo et son énergie fait tourner mon pendule à forte amplitude. Cette eau est douce et très bonne à boire. Un matin, j'ai rencontré les vieux du village faisant le plein de bidons et bouteilles à cette source, ceux-ci remontaient à pied du village par le sentier à travers champs. C'est un bon coin pour y pique-niquer et y passer une après-midi relaxante entre le soleil et l'ombre des arbres. C'est vraiment le bout du monde

En Alsace on prononce à la germanique clim-bar et pas clinbache ou climbac', les consonnes «CH » sont un son R qui vient du fond de la gorge. C'est comme ceux qui disent bac en parlant de Jean-Sébastien BACH.

F5RCT Jean-Matthieu STRICKER f5rct.jm(at)gmail.com

Si vous connaissez un lieu insolite ou si vous voulez décrire votre village, votre région, un monument, un château, etc. Envoyez votre description à Ham-Mag. ham.france@free.fr



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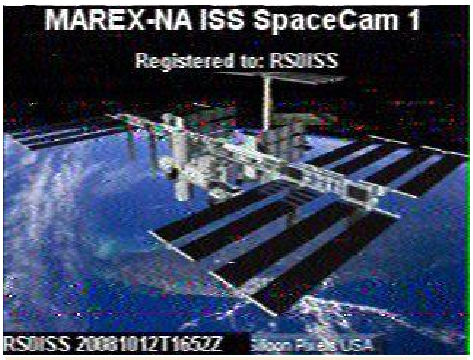
NOUVELLES DE L'ESPACE !

Par F1OK

Images SSTV ISS



QSP de F5RRO

SUITSAT-2 : C'est pour bientôt

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La communauté radioamateur mondiale se souvient du lancement , le 3 février 2006 , du "satellite " SUITSAT et au point où nous en sommes , au printemps prochain en 2009 , on devrait voir le lancement à partir de la station spatiale internationale (ISS) d'un deuxième satellite reprenant le meme concept tout en l'améliorant.

L'idée des satellites SUITSAT germa dans la tête d'un radioamateur russe RV3DR en octobre 2004 lors du congrès annuel de l'association ARISS (acronyme pour Amateur Radio on the International Space Station). L'idée consiste à glisser dans un scaphandre de spationaute ayant fait son temps, divers équipements radioamateur puis à mettre l'ensemble en orbite en le catapultant directement depuis l'ISS lors d'une sortie dans l'espace d'un membre de l'équipage.

Un premier scaphandre qui avait été retiré en 2005 du service actif fut donc utilisé en 2006 pour SUITSAT -1. Un autre devrait l'être prochainement et il sera utilisé pour accueilir SUITSAT 2. A noter que l'espérance de vie des satellites SUITSAT est assez faible. Suite aux frottements sur les hautes couches de l'atmosphère, ils retombent en quelques mois sur terre et brulent à une centaine de kms au dessus de nos têtes. La durée de vie est relativement imprévisible. Ainsi SUITSAT 1 (alias OSCAR 54) qui selon les prédictions ne devait rester en orbite que 2 à 3 mois tourna beaucoup plus longtemps autour de notre terre. Ce fut seulement le 7 septembre, soit 7 mois après son lancement, qu'il disparut des écrans radar. Cette longévité exceptionnelle fut attribuée à la faible activité solaire en 2006. Faible activité ne dilatant pas autant la très haute atmosphère terrestre et réduisant de ce fait le freinage aérodynamique pour les objets évoluant entre 200 et 400 kms d'altitude. L'équipement qui se trouvait à bord de SUITSAT-1 était relativement simple et se résumait un simple émetteur à piles operant en VHF sur 144.900 Mhz. SUITSAT-1 connu un grand succès qui déborda largement le cadre de la communauté radioamateur mondiale. L'expérience fut relayée par de nombreux médias du monde entier et des milliers d'internautes se connectèrent sur le site internet de SUITSAT qui enregistra plus de 9 millions de visites pour le seul mois de février 2006 .

Aux dernieres nouvelles il semblerait que ce serait non pas 1 mais 2 scaphandres bourrés d'électronique opérant dans les bandes amateurs qui seraient lancés en 2009. Une équipe américaine travaille depuis 2006 sur le projet sous la houlète de Lou McFadin (W5DID). Cette équipe a été récemment renforcée par l'arrivée d'autres amateurs chevronnés comme Tom Clark K3IO et elle fera le point de l'avancement du projet lors de l'assemblée générale de l'AMSAT USA en octobre prochain. Une autre équipe coté russe avec à sa tête Sergue Sambourov travaille depuis plus récemment sur un projet équivalent (projet RadioSkaf) avec des étudiants d'une université moscovite. Pour les deux projets les équipement seront alimentés par des panneaux solaires permettant un fonctionnant de plus longue durée. Le projet russe prévoit l'implantation de plusieurs microcaméras retransmettant des images de la terre alors que le projet US met plus l'accent sur le test de nouvelles technologies comme un transpondeur SDR (Software Define Radio) ou les fonctions de décodage se font par voie logicielle . La décision de procéder à ces exprériences avait été prise en 2006 dans la foulée du lancement de SUITSAT 1 et le lancement de ses successeurs aurait du avoir lieu dès fin 2007, mais le retard pris dans les programmes de l'ISS a conduit à repousser la durée de vie des scaphandres et à reporter à 2009 la mise en œuvre des lancements SUITSAT .

VOTRE NOM DANS L'ESPACE

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Futur Satellite LRO autour de la lune

Il est important pour les agences spatiales des différents états ou communautés de se faire connaitre au maximum du grand public afin de ne pas se faire amputer leurs crédits de recherche par les politiques en charge de la répartition de "l'argent des contribuables". L'agence spatiale américaine a toujours eu un service de communication très actif. Elle a ainsi lancé cette année une campagne visant à permettre au grand public (américain et autres) de laisser son nom et des messages sur différentes sondes spatiales qui seront prochainement lancées. Une des dernières opportunités qui sont ainsi offertes concerne le Lunar Reconnaissance Orbiter (LRO) qui sera satellisé autour de la lune et la sonde KEPLER qui est la première mission de la NASA capable de détecter des planètes comparables à notre terre et susceptibles d'abriter des organismes vivants. Pour laisser votre nom sur le LRO , désolé c'est trop tard , la date limite était fin juin 2008 mais vous pouvez vous rabattre sur la sonde KEPLER pour laquelle la date de fin de prise des noms est fixée au 1 novembre 2008. Pour cette derniere, il suffit de vous connecter au site dédié (adresse http://namesinspace.seti.org/). .Vous pouvez non seulement indiquer votre nom mais aussi laisser un message (pas plus de 500 signes) indiquant pourquoi vous jugez important cette mission de quête de formes de vies dans l'espace. L'ensemble des données ainsi recueillies sera gravé sur un DVD qui sera mis à bord de la sonde KEPLER qui devrait etre lancée en orbite autour du soleil en février 2009 .

CONGRES AMSAT USA

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Comme chaque année à pareille époque se tiendra le congrès de l'association AMSAT USA qui aura lieu cette année à Atlanta en Georgie les 25 et 26 octobre 2008. On y fera la point sur les différents projets de satellites amateurs en gestation. On y parlera bien sur du satellite EAGLE pour lequel de plus en plus de voix commencent à s'élever contre la lenteur de sa réalisation et sur la facon dont l'argent collectée de par le monde alimente le projet. Les representants de l'AMSAT DL feront le point sur le satellite PHASE 3E , un satellite à orbite fortement elliptique qui n'a toujours pas de date ni de lanceur attitré .

Leur objectif est de terminer le satellite avant la fin de l'année 2008. Après en effet, ils ne pourront plus disposer du laboratoire où il est présentement assemblé. L'état d'avancement du projet SUITSAT -2 sera présenté par l'équipe qui en a la charge. Contrairement à ce qu'avait réalisé l'AMSAT UK lors de son congrès fin juillet 2008, il ne semble pas prévu de diffuser en direct sur internet les présentations et les discussions. Cette facon de faire avait été particulièrement appréciée par la communauté radioamateur mondiale qui en avait eu vent.
Grâce aux bonnes relations de l'AMSAT UK avec le British Amateur Television Club on pouvait voir directement chez soi les presentations en direct en se connectant au site http://www.batc.tv et même poser des questions. Si vous voulez en savoir plus sur le contenu des presentations du congrès AMSAT USA, il vous faudra acquérir les actes du congrés en vous connectant sur le site http://www.amsat.org

UNE AUTRE APPLICATION DU GPS

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Il est loin le temps où le GPS était uniquement utilisé par les militaires US afin de les guider dans des zones inconnues. Les services marketing des différentes sociétés impliquée dans la fabrication de GPS grand public ne sont pas à cours d'idées pour trouver de nouvelles applications afin de déveloper leurs ventes. Une des dernières consiste à proposer un GPS pour animaux de compagnie ! D'après des études dignes de foi, il se perdraient près de 10 millions d'animaux de compagnie par an rien que pour les USA. Une bonne partie d'entre eux sont retrouvés après un laps de temps plus ou moins long. Depuis quelques mois une société américaine (la société ZOOMBAK) propose un localisateur permettant aux propriétaires d'animaux domestiques de savoir exactement où ils se trouvent. Le boitier est à la fois compact et léger (environ une centaine de grammes) et peut être porté par l'animal sans le géner. Il en coute 200 dollars US pour l'acquérir. Le boitier envoie de facon périodique la position par radio. L'information est captée par un réseau de stations pour le moment réparties sur les USA qui la retransmettent à la demande sur le réseau internet. Le propriètaire voulant savoir où se trouve son animal doit se connecter au site internet de la société pour le savoir. L'abonnement à ce service lui coutant 10 $ par mois. Le service permet un grand nombre d'options comme par exemple d'etre prevenu automatiquement par teléphone si l'animal s'aventure à l'exterieur de zones prédéfinies à l'avance

l'APRS ZOOMBAK

Le principe, on l'a compris, est assez voisin de celui mis en oeuvre dans la communauté radio amateur pour le système APRS (Automatic Position Reporting System) qui permet à tout un chacun de localiser une station radioamateur n'importe où dans le monde. Pour le moment, les concepteurs des logiciels utilisés par les amateurs n'ont pas été aussi imaginatifs que ceux de la société ZOOMBAK mais le service est totalement gratuit .

Le système commercialisé par la sociét ZOOMBAK n'est pas le seul disponible actuellement La société GARMIN commercialise un système un peu identique surtout à destination des chasseurs qui peuvent ainsi connaitre exactement où se trouvent leur chiens. Ces derniers sont équipés d'un petit boitier (boitier DC 30) envoyant par radio leur position. L'information est captée par un récepteur (Astro 220) en la possession du propriétaire de la meute qui peut ainsi suivre jusqu'à 10 chiens à la fois. Le rayon d'action du systéme est de l'ordre de 5 km en terrain dégagé. L'information apparait sous forme catographique sur le recepteur Astro 220, sa fréquence de rafraichissement pouvant être choisie par l'utilisateur. Les colliers portés par les chiens comme le recepteur détenu par leur maitre sont alimentés par de simples piles électriques assurant une autonomie proche de 24 heures. Une fois la saison de chasse terminée, le recepteur ASTRO 220 peut etre utilisé comme un GPS standard en changeant simplement la carte mémoire l'equipant. Chaque collier émetteur coute 200 US$ et le récepteur ASTRO220 environ 650 US$.

Curieusement tous les systèmes de localisation sont très diversement percus par ceux qui les utilisent. Dans le domaine professionnel, pour localiser une flotte de camions ou de bus par exemple les systèmes sont souvent mal percus par les usagers et plus considérés comme un système de flicage qu' une aide véritable. Cela n'est pas le cas dans le monde radioamateur avec le système APRS ou c'est l'utilisateur lui même qui , de son plein gré , s'en dote de facon à rendre public le moindre de ses déplacements. Il faut dire aussi que le système APRS dispose de fonctionnalités interessantes comme par exemple la possibilité d'envoyer des messages. Il est peut être aussi possible que le développement du système APRS chez les radioamateurs soit favorisé par les Y.L .qui peuvent ainsi suivre à la trace leur O.M. de conjoint !

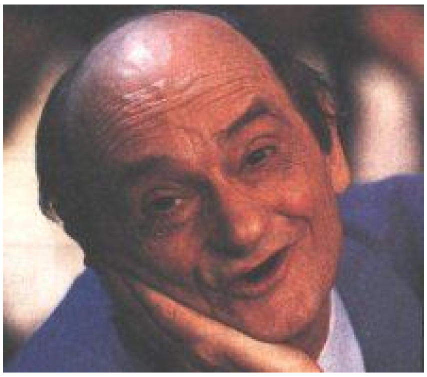
Bernie de F6HQY nous propose sur un ton comique et incisif, une nouvelle concernant notre monde radioamateur. A prendre au second degré, cette nouvelle en plusieurs parties s'intitule :

CHATEAU FOIREUX (3ème partie)

Toute ressemblance avec des personnages existant ou ayant existé est fortuite et involontaire de l'auteur.

Jacques appela Cédric – pourquoi lui ? – une quinzaine de jours plus tard :
- Salut garçon, j'ai une bonne nouvelle : j'ai trouvé le château à activer. Ça n'a pas été sans mal, il a même fallu que je téléphone au gros Paul et Dieu sait qu'il n'est pas facile à joindre, depuis sa retraite, il est toujours en vadrouille quelque part ! Enfin, il m'a tout expliqué, je sais tout ce qu'il faut savoir...
- Ha... Voilà une bonne nouvelle, je me demandais si cette histoire n'allait pas tomber à l'eau. Alors, c'est quel château.
- Hé bien, comme je te l'ai dit, ça n'a pas été facile à trouver. En fait, il y a relativement peu de châteaux dans le secteur et tous ont déjà été activés par des gars d'autres départements. Et on ne le savait même pas, je le note au passage. Je sentais mal cette affaire lorsque je me suis souvenu de l'endroit où je passais mes vacances quand j'étais gosse, dans le sud du département. Il y avait à côté de la ferme de mes grands parents une espèce de bâtisse en assez mauvais état, et tous les gens du village l'appelaient «le Château». Tu te rends compte ?
- Oui, dis donc, c'est un coup de bol ! Mais c'est vraiment un château ?
- Tout à fait, je me suis renseigné à la mairie et ils m'ont confirmé le fait. J'y vais d'ailleurs samedi pour rencontrer le propriétaire, un original à ce qu'il paraît...
- On dirait que ça se présente plutôt bien, non ? Au fait, il s'appelle comment ?
- C'est le Château Foireux.
- Ha ha ha ! C'est une blague !
- Pas du tout ! Arrête de rigoler. Il s'appelle comme ça car il paraît que c'est à côté de lui que se tenaient les foires aux bestiaux en 1800 et quelques.
- Ha ha ha...Je le crois pas !
- Ecoute : foire / foireux... C'est du vieux français ça. Arrête d'avoir l'esprit mal tourné !
- C'est plus fort que moi... Désolé. Bon, tu nous tiendras au courant ? Pour ma part, j'ai l'antenne, le coaxial et même le coupleur. Par contre, il n'est pas très QRO, alors, avec l'ampli d'André...
- Ne t'inquiète pas, on s'arrangera. Bon, je téléphone à André pour lui raconter où on en est, fais donc la même chose pour Robert.
- OK, je m'en occupe de suite. Tiens nous au courant.
- Pas de problème, j'appellerai dimanche ou lundi. Bye.
- Bye...
Cédric raccrocha, songeur. Il ne savait que penser de cette activation mais bon, Jacques était chaud comme une baraque à frites, c'était suffisamment rare pour être remarqué. Peut être que cette activité allait arranger les affaires de la section ? Allez savoir, avec les radioamateurs, tout était toujours possible. Même le meilleur.
Il reprit le téléphone pour appeler Robert qui, comme on pouvait l'imaginer, lui ricana au nez. Cette histoire d'activation de château lui paraissait toujours aussi stupide mais bon, il avait déjà prévu le déjeuner et, faute de QSO, personne ne mourrait de faim. Ni de soif d'ailleurs.

Jacques, toujours aussi excité, appela tout le monde le dimanche soir et fixa rendez vous à la fine équipe en son domicile le mercredi suivant. « Il faudra être là sans faute ! ».
Tout le monde avait promis et tout le monde était là ce fameux soir, confortablement installé dans la salle à manger en acajou verni de Jacques. Il y avait des napperons faits au crochet sur le buffet qui supportait aussi une diane chasseresse en plâtre, et des canevas – style biche effarouchée sortant du sous bois mordoré – sur le mur qui faisait face à Cédric. Manifestement, Jacques aimait le style Louis Caisse. Ils étaient en train de siroter une Chartreuse – Robert en était déjà à sa deuxième : ça se boit tout seul ce truc ! – quand Jacques décida de passer aux choses sérieuses :
- Bon, mes amis, je peux vous dire que l'affaire se présente de mieux en mieux. Nous pouvons d'ores et déjà fixer une date !
- Tu as pu rencontrer le proprio des lieux ? Qu'est-ce qu'il en pense ?
- Comme je te l'avais dit, André. Le gars s'appelle Ambroise Paré du Scalpel – un vrai noble donc – et il est d'accord pour qu'on s'installe une journée dans la cour du bâtiment. Il a tiqué un peu au début mais, après quelques verres, pas mal de verres même, il m'a donné son accord...
- T'aurais dû m'envoyer à ta place, fît Robert, quelques verres de plus et il nous laissait entrer dans son salon...Je te l'aurai plié en quatre, ton Vicomte ! Ce ne serait pas le premier soiffard que je couche.



- Pour ça, on te fait confiance. Mais il ne faut pas abuser, j'ai d'ailleurs le sentiment que ce type, tout noble qu'il est, est un drôle de client, un original même. Vous verrez, il ressemble un peu à Sim. En plus cradingue.
La soirée se poursuivit dans une atmosphère bon enfant, la Chartreuse coulait dans les verres pendant que Rolande, la femme de Jacques, servait une tarte aux pommes de sa fabrication. Des décisions furent néanmoins prises et Jacques nota sur un papier qui était responsable de quoi, une sorte de checklist en fait. Quand fût évoqué le point du déplacement, personne n'avait l'air très chaud pour prendre sa voiture. René débloqua la situation d'un commentaire définitif :
- Dis donc, André, tu ne viens pas d'acheter un Scénic neuf ?
- Neuf, justement, et j'aimerais bien qu'il le reste !
- Arrête, on fera gaffe. Et puis ça va le rôder un peu ton tacot, parce que ce ne sont pas les dix kilomètres que tu fais par semaine qui vont le dérouiller ! On va te le faire respirer, ton Scénic, en plus il y a plein de place là dedans, c'est idéal pour une activité OM !
André faisait un peu la gueule mais bon, l'autre n'avait pas complètement tort. Il en serait quitte pour passer au Lavomatic dès le lendemain de l'activation.

Rendez vous fût enfin pris pour le deuxième samedi d'octobre, les opérations devaient démarrer à neuf heures pétantes, Jacques avait insisté sur ce point car il caressait le projet de faire un score digne d'impressionner Betty, la présidente du REFU qui, il faut bien le dire, lui avait tapé dans l'oeil. Chacun opina du chef, souhaitant in petto qu'il fasse beau temps histoire de profiter au moins du pique nique à défaut d'autre chose.
Sur le pas de la porte, Cédric demanda : « Au fait, c'est quel numéro DFCF ? ». Jacques sortit un papier de sa poche et fît : « C'est le DFCF 98-012 ».

(Note de l'auteur : vous ne croyiez quand même pas que j'allais prendre un département qui existe ! Il y a tellement de malfaisants prompts à prendre la mouche...)

A suivre...

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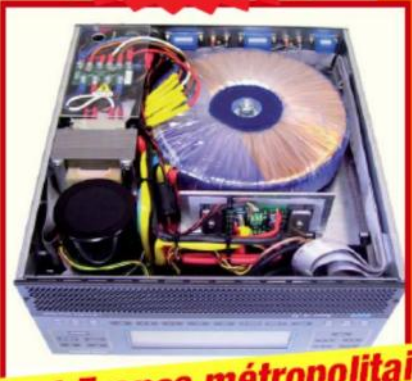

Franco de port France métropolitaine pour les commandes passées en octobre !

*Prix indicatif ; prix magasin et offres promotionnelles, nous consulter. Photos non contractuelles. Publicité valable pour le mois de parution. Prix exprimés en euros. Sauf erreur typographique.

0908_HEIL

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La rubrique détente

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J'émets avec un ampli de 10Kw. Vous croyez que ça laisse des séquelles Docteur ?
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VIVE LE QRP !!!

La Semaine prochaine …

DUPLEXEUR 70CM
PAR F5RCT

HISTOIRE :
QUI A INVENTE LA T.S.F. ?
PAR F5OZK

ET VOS RUBRIQUES HABITUELLES…

HAM-MAG

Le 1er E-magazine hebdo pour radioamateurs, amateurs radio, SWL...

La Chronique Radio-Maritime
PAR F6DGU

ANTENNE QFH
PAR F4CRM

Construire son P.T.O.
Par F6BCU

DUPLEXEUR 70CM
Par F5RCT

NUMERO 5
GRATUIT

27 OCTOBRE 2008
http://ham.france.free.fr

EDITORIAL

Cher abonné bonjour,

Victime de son succès, votre magazine essaye de gagner de la place.

En effet, cette semaine, vous trouverez des articles techniques intéressants. Mais pour les publier, il a fallu "rogner" sur la publicité et sur certaines rubriques. En soi, ce n'est pas très grave dans la mesure où vous les retrouverez la semaine prochaine. Que les annonceurs acceptent de nous pardonner, de toute façon, nous continuerons à leur faire la publicité gratuite.

A l'heure où j'écris, nous dépassons les 2000 abonnés. Comme il semble loin le temps du numéro 1 avec ses 290 abonnés. Enfin... Pas si loin que cela !
Un mois, ça passe vite. Et en un mois nous avons constaté cet élan de participation, d'envie de partage et de générosité qui anime les radioamateurs et amateurs radio.

Ham-mag reste et sera toujours une revue humble et ouverte à tous les O.M. francophones. Déjà nos amis Belges et suisses participent allègrement à cette conception, et nous sommes toujours ouverts à toutes participations du monde entier qu'elles viennent de nos amis d'outre-atlantique, du Pacifique, d'Afrique, d'Europe de L'Est, de Moyen-orient... Seul le partage d'idées et d'expériences compte.

Suite à de nombreuses demandes, une rubrique petites annonces a été mise en place. C'est pour l'instant un essai, notre but n'est pas de concurrencer les nombreux sites qui y consacrent déjà de la place. Cette gestion d'annonces est une charge de travail en plus, mais des lecteurs la réclament, donc... Acte !

Nous demandons aussi un peu de patience de la part de ceux qui ont eu la gentillesse de nous envoyer la description de leur station, l'adresse d'un site Internet à publier, des articles historiques, etc. Leurs participations seront publiées au fur et à mesure.

Bonne lecture et cordiales 73 !
Vincent FAUCHEUX, F5SLD
ham.france@free.fr

http://ham.france.free.fr

HAM-MAG

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Remerciements à **F14368, F0EXF, F0FUR, F4CRM, F5OZK, F4FUC, F5IRO, F6DGU, F5RAZ, F6BPO, F6HQY, F8BRP, ON3MAJ, ON4KEP, HB9DVD, HB9RHI, CN8WW, Daviken, Jérôme,**.

Merci aux différents annonceurs qui nous accordent leur confiance et à tous les O.M. qui nous ont envoyé des messages de soutien. Pardon à ceux que j'aurais oubliés...

Ce magazine ne demande qu'à s'améliorer et s'étoffer. N'hésitez pas à nous envoyer vos infos, vos avis et vos suggestions.
Mail : ham.france@free.fr

Nous incitons nos lecteurs à ne pas copier et envoyer cette revue à leurs amis mais plutôt les inviter à s'abonner. C'est gratuit et sans publicité intempestive.

N'oubliez pas que ce magazine a été réalisé par **des bénévoles** au détriment de leurs heures de loisirs et de trafic.

N°5

LA CHRONIQUE RADIO MARITIME - Par f6dgu

La radio-maritime à bord des navires ?

“La radio-maritime et les antennes de bord”

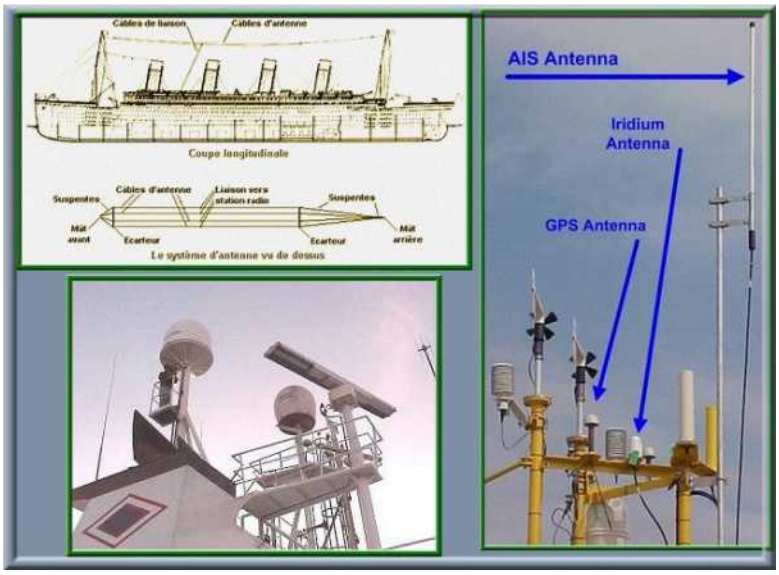
“ Monsieur, je quitte le domicile d’un radioamateur avec un énorme problème conjugal à résoudre : mon épouse qui m’accompagnait a été horrifiée à la vue des antennes qui selon ses dires massacrent l’esthétique de la magnifique maison entourée d’un charmant jardin de notre ami radioamateur. Mais sur les bateaux, les antennes posent-elles des problémes ?

“En effet les antennes ont été de tous temps un sérieux probléme à résoudre pour toutes les stations radios embarquées, que ce soit sur les avions, les voitures et sur les navires, catégorie qui nous occupe aujourdhui . ”

Voiçi quelques informations les concernants :

L’antenne pour une station radioéléctrique est la pierre angulaire de l’émission radio : pas d’antenne, pas d’émission/réception ; mauvaise antenne, mauvaise émission/réception.

Tous les Marins Radios savent que l’antenne transforme l’énergie éléctrique en rayonnement radioéléctrique qui sous forme d’ondes radioéléctriques se propagent dans l’atmosphère et ainsi permettent de transmettre une information. Donc l’antenne doit être en adéquation avec le récepteur et l’émetteur tant du point de vue du fonctionnement que des objectifs à atteindre. Si l’on désire une fiabilité importante pour assurer une liaison radio avec fidélité et sureté nous devons installer le couple E/R - ANTENNES le plus performant possible avec une probabilité de succès voisine de l’unité. Ce principe a dirigé la conception et l’installation des premières antennes à bord des navires dans les années 1910. Il s’agissait alors principalement d’écouler un trafic radio d’urgence ou de secours comme pour la 500khz à bord des navires marchands et de pêche et des messages prioritaires pour les batiments de guerre. Les émetteurs étaient de conception rustique, de faible puissance au mieux quelques centaines de watts. Les superstructures des navires n’avaient pas été conçues pour les accueillir et il fallait donc faire preuve d’ingéniosité pour les installer. Heureusement elles étaient à 90% de conception filaire et tendues entre deux mats. La longueur d’onde de la fréquence 500khz étant de 600 métres excluait tout “petit bout de fil” . Ce systéme de long fil ou d’antenne nappe perdurera jusque dans les années 1950. Les navires marchands devaient descendre les antennes à chaque escale pour ne pas entraver le fonctionnement des mâts de charge. Les premiers sous-marins plongeaient avec leur antenne filaire en place sur le pont.



Tout ceci engendrait une forte corrosion des cables de cuivre utilisés mais aussi nécessitait un entretien permanent des isolateurs en verre ou céramique afin de leur enlever la couche de sel qui se déposait et qui dégradait la bonne isolation de l’antenne. Pendant la seconde guerre mondiale et dès les années 1950, apparaissent de nouvelles antennes sur les navires : pour la radio, des antennes plus petites qui sont réglées sur les fréquences HF 2MHZ à 30MHZ, puis très courtes réglées sur les fréquences VHF 70MHZ à 160MHZ. Pour les batiments de guerre les fréquences UHF 200MHZ sont très vite utilisées pour les liaisons locales avec les aéronefs.

Les antennes HF sont de deux catégories : les antennes filaires et les antennes fouets. Cette dernière catégorie ne sera utilisée que bien plus tard par les navires français mais trés vite adoptée par les navires du bloc soviétique qui ainsi rattrapaient les faibles rendements de leurs émetteurs récepteurs radios grâce aux remarquables performances de leurs antennes accordées. Les antennes VHF et UHF sont de type fouet ou parapluie et sont de faible encombrement dû à leurs longueurs d'ondes très courtes. Mais une nouvelle antenne vient durablement modifier l'aspect des superstructures de tous les navires : l'ANTENNE RADAR. Issue des travaux scientifiques menés pendant la deuxième guerre mondiale le RADAR va dès les années 1960 être embarqué progressivement à bord de toutes les catégories de navires. Cette antenne radar a une particularité jusque là inconnue à bord de la plupart des navires. : elle tourne. De plus elle doit être placée dans un lieu dégagé de tout obstacle et placée le plus haut possible. Cette antenne va donc remplacer la cage de la vigie dans le mât le plus haut du navire. Elle vient aussi rejoindre l'antenne GONIOMETRIQUE placée audessus de chaque passerelle de navire. Ces deux antennes sont les premières antennes d'équipements que l'on va désormais nommer les AIDES RADIOELECTRIQUES A LA NAVIGATION. Elles seront rejointes par les antennes des systémes CONSOL, LORAN, DECCA, GPS, OMEGA et autres AIS et NAVTEX.

Dans les années 1960, un nouvel équipement vient soulager la problématique des antennes et améliorer considérablement leurs performances c'est : LA BOÎTE DE COUPLAGE D'ANTENNE EMBARQUEE. Son utilisation sera généralisée à bord de tous les navires dans les années 1970. Les antennes cerf-volant permettent aux embarcations de trés faibles dimensions et ne possédant pas de mât de déployer un long fil tendu par un cerf-volant. Elles faisaient partie de l'équipement réglementaire de toutes les embarcations de sauvetage dans les années 1960, 1970, 1980. Une dernière évolution vient modifier les superstructures des navires vers les années 1980. Ce sont les antennes satellites, qui vont du simple baton vertical à la parabole placée sous un dôme protecteur. Les sous-marins ont depuis longtemps abandonné de plonger avec une antenne filaire déployée sur le pont. Bien souvent en plongée (les ondes radioéléctriques ne pénétrant que de quelques métres sous l'eau) ils ont recours à l'éjection de bouées filoguidées porteuses d'une antenne qui en arrivant à la surface et en se deployant permet d'établir la liaison radioéléctrique avec le sous-marin resté en immersion simplement relié pendant la transmission à la bouée par une ligne coaxiale adaptée.

Toutes ces antennes embarquées ont les points communs suivants : leur extrème fragilité au vent, à la foudre, et leur encombrement qui amènent souvent à réaliser des compromis entre leur efficacité et la géne occasionnée dans le fonctionnement du navire. Lorsque le navire est à quai les antennes sont toujours génantes et dangereuses : génantes pour les manoeuvres de chargement et de déchargement, accrochage avec les portiques et grues de levage de toutes sortes, dangereuses par leur rayonnement radioéléctrique, elles peuvent déclencher des incendies ou explosions lors du chargement ou du déchargement de matières dangereuses comme pétrole, gaz etc ... Pour les bateaux de plaisance à voile le probléme des antennes est d'autant plus important que les superstructures des voiliers par définition et construction sont déjà aux 80% occupées par les voiles et drisses de toutes sortes. Des solutions de compromis ont été trouvées comme de remplacer un étai par une antenne avec deux isolateurs résistants. Ou l'utilisation d'antennes fouets à l'arrière du voilier.

Aujourd'hui les antennes font parties des superstructures des navires et leurs emplacements sont prédéterminés dès la phase de conception du navire au même titre que la cheminée et que le portique de mise à l'eau des embarcations de sauvetage.

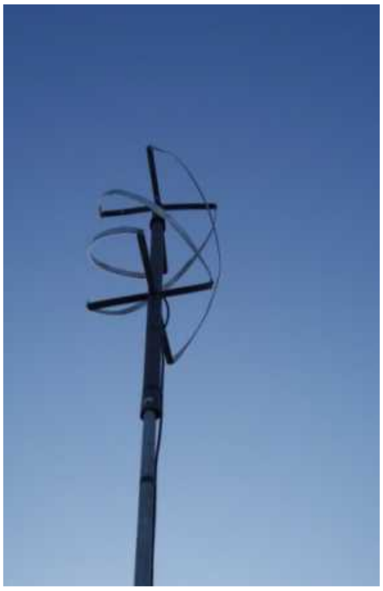
O. MARSAN

Officier radioéléctronicien de première classe de la Marine Marchande, radioamateur F6DGU

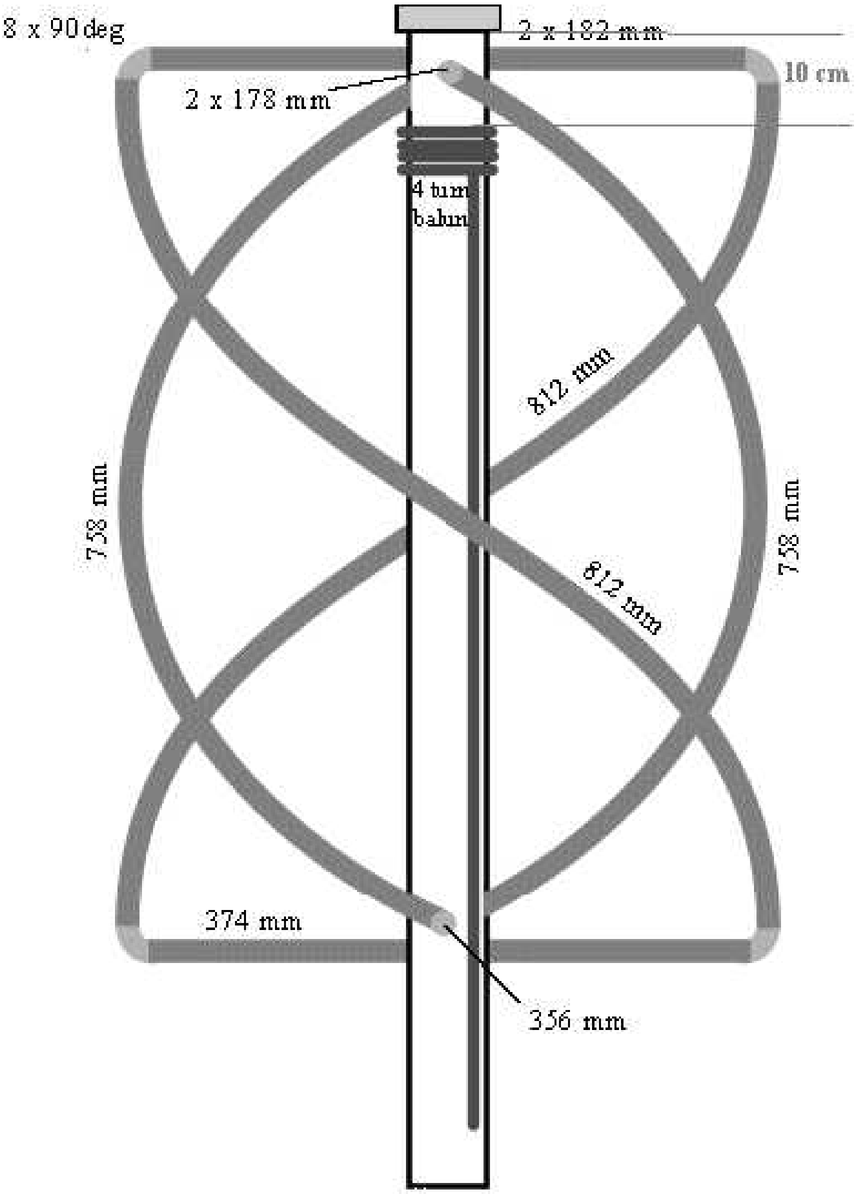
ANTENNE QFH - PAR F4CRM

Voici une description de montage d'antenne réception satellites, tout en image.

Ma QFH pour la réception des satellites météo défilants.



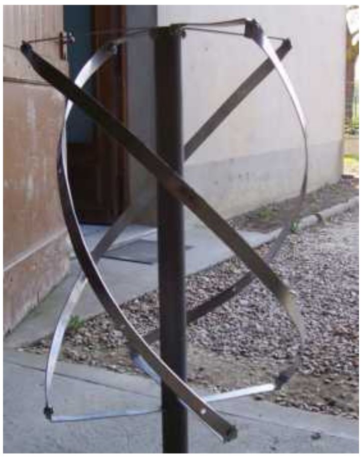
Voici le schéma.

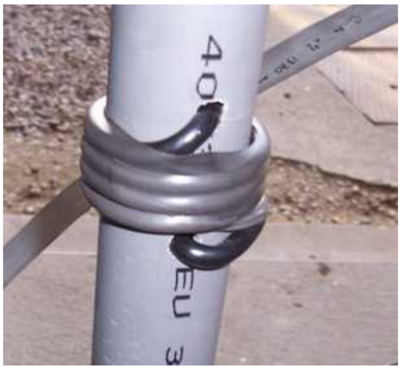


Diamètre du tube 40mm

Elle est faite avec du plat de 20mm de large par 2mm d'épaiseur. C'est bien plus facile à travailler pour donner la courbure.

Attention les éléments du bas sont en une partie. Le boom est percé avec une scie a métaux afin d'y enfiler le plat alu.

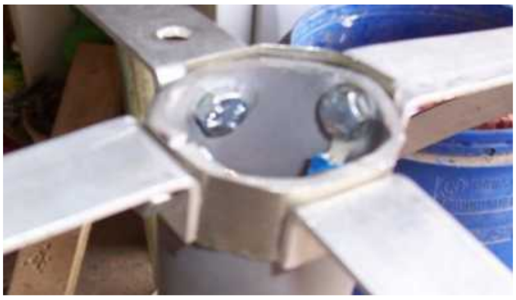
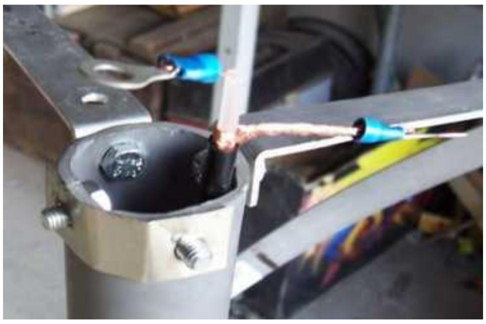


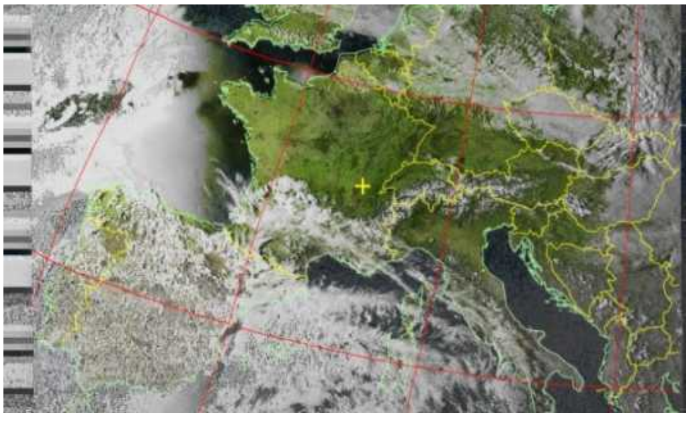


Important :

Il faut que le balun soit bobiné a l'inverse du sens de rotation de l'antenne.

L'alimentation de l'antenne se fait avec du coaxial de 50 ohms et les deux boucles sont couplés par un morceau d'alu inséré entre les éléments et le boom.



Les résultats sont vraiment excellents, même sans préampli. Ce qui est tout de même indispensable pour avoir une image de qualité surtout lorsque le satellite à une élévation moyenne.

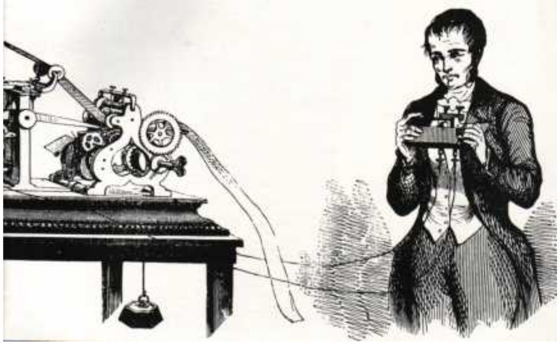
Voici une image lors des premiers essais sans préampli.
Bonne réalisation… **F4CRM.**

QUI A INVENTE LA T.S.F. ?

CHAPPE ?

En toute rigueur on pourrait dire que le télégraphe sans fil a existé avant le télégraphe électrique. C’est en effet l’ingénieur français Claude Chappe qui, en 1794, établit la première liaison télégraphique entre Lille et Paris, et ceci sans aucun fil. Il utilisait en effet un procédé optique : des signaux représentés par des bras mobiles étaient observés à la longue vue et relayés de station en station. Le message parvenait en quelques minutes à l’autre bout de la France, alors qu’un courrier porté par une estafette à cheval brûlant les étapes mettait plusieurs jours. Mais cela ne fonctionnait ni la nuit ni par brouillard.

MORSE ?



Ce n’est pas le télégraphe aérien de Chappe que l’on désigne habituellement par le sigle TSF, mais bien une version « sans fil » du télégraphe électrique de Morse. Après diverses tentatives plus ou moins heureuses c’est le procédé mis au point, en 1837 par l’Américain Samuel Morse qui impose par sa simplicité et sa sûreté de fonctionnement. Le code Morse est, chacun le sait, constitué pas des successions de signaux brefs et longs (points et traits) et d’espaces.

L’opérateur manœuvre un interrupteur, le « manipulateur » qui établit ou interrompt un courant électrique dans un fil conducteur au rythme des signaux Morse. A l’autre bout de la ligne, à des distances pouvant dépasser plusieurs centaines de kilomètres, un électro-aimant actionné par le courant de la ligne, déplace un crayon qui trace sur une bande de papier en mouvement régulier les point et traits correspondants. La transmission se fait quasi instantanément puisqu’il s’agit d’un courant électrique et fonctionne à toute heure et par n’importe quel temps. Seul inconvénient, il faut établir et entretenir des lignes télégraphique aériennes (sur des poteaux), souterraines ou sous-marines. On ne peut donc atteindre, par ce moyen, ni les navires en mer, ni les véhicules en mouvement, ni les aéronefs. De plus les lignes peuvent être coupées, accidentellement ou intentionnellement, si bien que les militaires ont toujours été très anxieux de trouver un moyen de télécommunication sans fil au moins aussi sûr et plus pratique que de faire porter des dépêches par les estafettes ou par des pigeons voyageurs.

MAXWELL ?

En 1864, le physicien écossais James Clerk Maxwell établit, par pur calcul mathématique, la théorie des ondes électromagnétiques et publie les équations qui régissent leur comportement. Mais il ne se livre à aucune expérience.

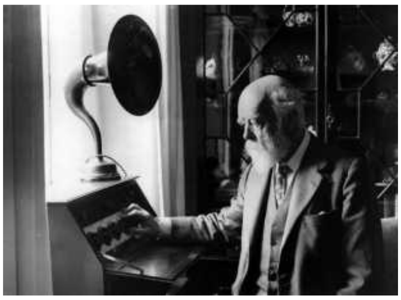
HERTZ ?

En 1888, le physicien allemand Heinrich Hertz prouve, le premier, l’existence réelle des ondes électromagnétiques à qui on donne, depuis, le nom d’ « ondes hertziennes ». Il fait jaillir de fortes étincelles entre les boules d’un éclateur alimenté par une bobine d’induction : c’est le premier émetteur. A quelques mètres de là se trouve une boucle ouverte en fil de cuivre et, si le distance entre les extrémités de la boucle est très petite, une très faible étincelle y apparaît chaque fois que fonctionne l’éclateur de l’émetteur : c’est le premier récepteur. Mais le phénomène, s’il prouve indiscutablement l’existence des ondes, n’est, sous cette forme, susceptible d’aucune application pratique, à cause de la grande faiblesse de l’étincelle reçue.

BRANLY ?

En 1890, le Français Edouard Branly remplace le récepteur de Hertz par un tube de verre contenant de la limaille de constate que sous l’action des ondes hertziennes, le tube devient conducteur alors qu’à l’origine il ne l’était pas.: C’est le « cohéreur » qui, relié à une pile, peut faire dévier un ampèremètre, allumer une lampe témoin ou faire retenir une sonnette, dès que des étincelles sont produites à l’éclateur de l’émetteur à une vingtaine de mètres de distance : voici donc le premier récepteur utilisable. Malheureusement le phénomène n’est pas réversible, le cohéreur reste conducteur quand l’émission cesse et il faut le tapoter pour le rendre à son état initial, le « décohérer ».

LODGE ?



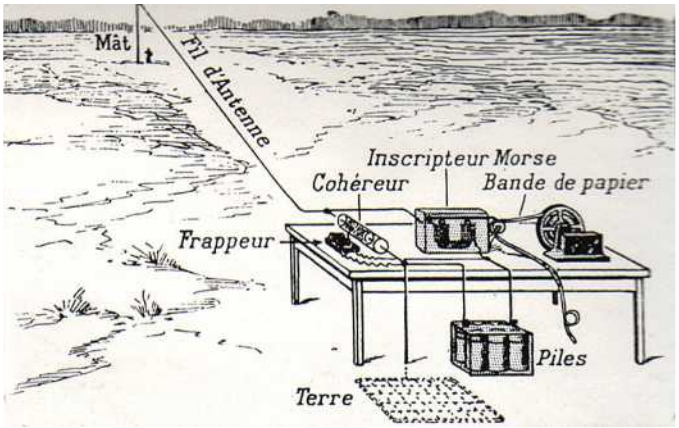
En 1894, le physicien anglais Sir Oliver Lodge imagine de faire commander par le cohéreur lui-même un électro-aimant actionnant un petit marteau qui frappe sur le tube et le decohère automatiquement.

POPOFF ?

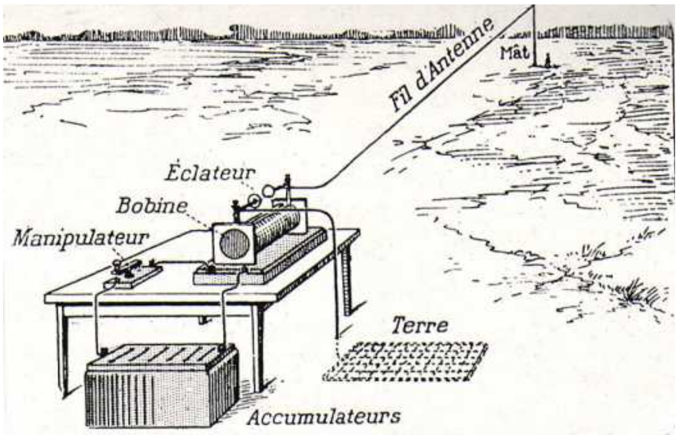
En 1895, l’officier de la Marine Impériale Russe, Alexandre Popoff, étudie les décharges dues à la foudre. Il à l’idée d’intercaler un cohéreur Branly-Lodge dans le fil reliant à la terre une tige de paratonnerre et peut ainsi enregistrer les éclairs. Il vient d’inventer le circuit « antenne-terre ».

MARCONI ?

La même année un jeune étudiant italien, Guglielmo Marconi, combine l’émetteur à l’étincelles de Hertz, l’antenne de Popoff et le cohéreur de Branly-Lodge pour transmettre à une quarantaine de mètres de distance des signaux Morse. La TSF est née. Marconi est autant un réalisateur qu’un chercheur et il est aussi un homme d’affaires. Peu épaulé dans son pays, mais entrevoyant les immenses possibilités de la TSF, il s’installe en Angleterre où il fonde la première entreprise industrielle spécialisée. Dès 1899, Marconi effectue la première liaison internationale à travers la Manche entre Douvres et Wimereux, soit 46 km, suivie en 1901 de la première liaison transatlantique : 3200 km.

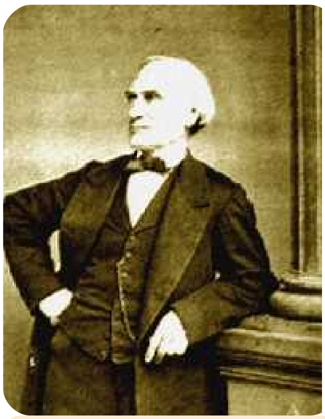


Le récepteur de Marconi



L'émetteur de Marconi

TESTA, OUDIN ?



HOUDIN

Tout va donc très vite. C'est qu'entre-temps (1892-1895) a été résolu le problème de la syntonisation. Les ondes hertziennes se caractérisent par leur longueur d'onde et le rendement augmente quand le récepteur est « accordé » sur la longueur d'onde de l'émetteur. Le Serbe Nicolas Testa, l'Anglais Lodge (déjà cité) et le médecin français Oudin inventent des « résonateurs » permettant d'obtenir cet accord.

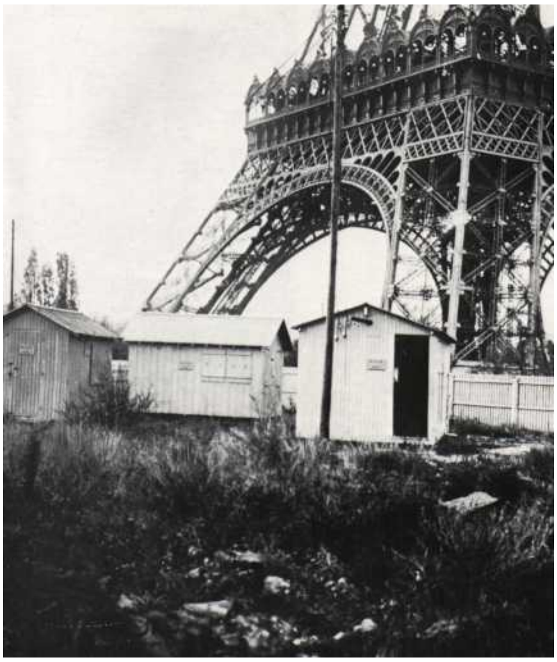
DUCRETET ET ROGER ?

Un fabricant français d'instrument de laboratoire, Eugène Ducretet et son assistant l'ingénieur Ernest Roger travaillent pour un grand nombre de savants français et étrangers, pour lesquels ils réalisent les appareils les plus divers. C'est à Ducretet que Branly s'adresse pour faire construire son cohéreur. C'est aussi lui qui construit le résonateur Oudin. Il suit attentivement les récits des toutes premières expériences en TSF et effectue lui-même, en 1897, la première liaison française entre son laboratoire et le Panthéon sur une distance de quelque 400 mètres. Il porte, en 1898, la distance à 4 km entre la tour Eiffel et le Panthéon, toujours assisté de Roger.

DUCRETET

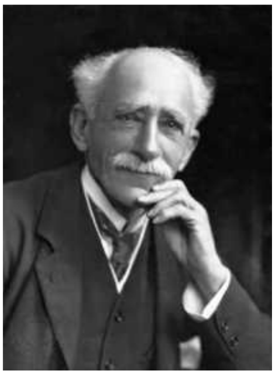
FERRIE ?

Les militaires français, génie de l'armée de terre et Marine Nationale, s'intéressent vivement à la TSF dont ils voient les immenses possibilités. Le capitaine Férrié invente en 1900 le détecteur électrolytique, plus performant que le cohéreur et, en 1902, alors que le séisme de la Montagne Pelée a isolé la Martinique en coupant les câbles sous-marins, il réalise la première liaison « opérationnelle » par TSF avec la Guadeloupe. Promu commandant il est en 1903 chargé par le ministère de la Guerre d'installer une puissante station à la tour Eiffel.



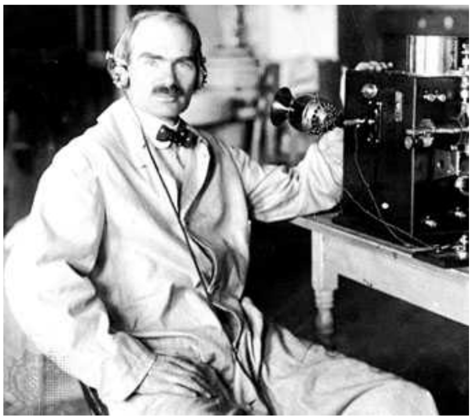
« Ferrié ville ». Ces trois baraques représentent la première station d'émission de TSF en France à partir de la tour Eiffel.

FLEMING ?



En 1904, Sir John Ambrose Fleming invente le premier tube à vide, la diode, qui se révèle un excellent détecteur.

LEE DE FOREST ?



L'américain Lee De Forest a, en 1906, l'idée d'intercaler entre les deux électrodes de la diode de Fleming une grille qui permet de contrôler le courant débité. Il donne à ce dispositif le nom d' « Audion ». C'est la triode, premier de tous les tubes électroniques, de toutes les « lampes de TSF » qui assureront l'essor prodigieux de la télévision et de l'électronique. Cette remarquable découverte ne vaut à son auteur que des ennuis : il est poursuivi pour confaçon pas le puissante compagnie anglaise Marconi, détentrice des droits du brevet Fleming et un tribunal américain juge son propre brevet nul, le dispositif revendiqué ne présentant aucun intérêt. Ce n'est que vingt ans plus tard que ses mérites seront enfin reconnus.

Arrêtons là l'énumération. Aucun de ces savants n'à, à lui seul, « inventé » la TSF. Chaque pays a son héros national à qui il est tenté d'en attribuer la paternité. Mais soyons sérieux et objectifs !… Cette invention n'est pas non plus un travail d'équipe comme on l'entend aujourd'hui. Chacun de ceux que nous avons cités (plus quelques autres que nous avons oubliés) a apporté sa pierre à l'édifice : l'un la théorie mathématique, l'autre sa confirmation expérimentale, d'autres les dispositifs pratiques indispensables. Chacun travaillait de son côté et n'avait connaissance des travaux de ses devanciers que par les mémoires publiées pas les Sociétés Savantes. Tout s'est cependant remarquablement enchaîné et très vite ! Le premier en un ensemble cohérent le manipulateur de Morse, l'émetteur de Hertz, l'antenne de Popoff et le cohéreur de Branly-Lodge et de l'utiliser pour transmettre à distance et sans fil des messages télégraphiques, c'est bien Marconi !

Le premier radiotélégramme transmis à travers la Manche est adressé par Marconi à Branly.
En voici le texte :

28 MARS 1899
M. MARCONI ENVOIE A M. BRANLY SES RESPECTUEUX COMPLIMENTS PAS LE TELEGRAPHE SANS FIL A TRAVERS LA MANCHE. CE BEAU RESULTAT ETANT DU EN PARTIE AUX REMARQUABLES TRAVAUX DE M. BRANLY.

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BON DE COMMANDE

NOM .... PRENOM ....
ADRESSE ....
....
CODE POSTAL |_|_|_|_|_| VILLE .... TEL ....
Veuillez me faire parvenir les articles suivants : ....
.... Chèque à la commande - Frais d'envoi : nous consulter.

Les infos DX

F5IRO

3D2, FIDJI

Akira, JA1NLX, sera actif sous 3D2YA depuis l'île Mana (OC-121) du 21 au 27 novembre. Activités sur 80/40/30/20/17/15/12/10 mètres en CW. QSL via home call, via Bureau ou en direct. Le log sera visible sur LoTW.

6W & J5, SENEGAL ET GUINEE-BISSAU

Peter, HA3AUI, wsera actif du Sénégal sous 6W2SC et de la Guinée-Bissau sous J5UAP entre le 15 novembre et le 31 mars 2009. Activités centrés sur les modes digitaux (un peu de SSB et de la CW sur demande) de 160 à 6 mètres. Matériel : 500w (en 6W) et 100w (en J5). QSL via HA3AUI, en direct ou via le bureau.

9H, MALTE

Anne, OH2YL, y sera active sous 9H3YL du 1er au 8 novembre. Activités prévues en HF en CW et SSB. QSL via home call.

EA8, ILES CANARIES (AF-004)

Les operateurs Jean/ON5JV et Georgette/ON6AK seront actifs sous EA8/homecall depuis Tijoco Bajo, Ténérife (S-012 pour le diplôme des îles espagnoles WLOTA LH-1276), entre le 22 novembre et le 3 février 2009. Activités surtout sur 40 et 20m le soir. QSL bureau via leurs calls respectifs.

IY, ITALIE (Evènement spécial Marconi)

La station spéciale IY1EY sera activée entre le 1et et le 9 novembre. Célébration les expériendes de Gugliemo Marconi's dans les années 1919-1936 depuis son yachr "Elettra". Activités toutes bandes en CW, SSB, RTTY et PSK31. Carte QSL spéciale via IK1QBT.

V4, ST.KITTS & NEVIS

John, W5JON, y est actif jusqu'au 31 octobre sous V4/W5JON. Location Ariel Heights, North Frigate Bay, St. Kitts (NA-104, WW Loc. FK87SG)t. Activités de 160 à 6m en SSB. Le QTH se trouve sur une montagne dégagée sur 360 degrés. Equipement IC-7000, ampli RM Italy KL-400 (400 watts), Alpha Delta 160-10 mètres dipole et une 3 éléments yagi sur 6 mètres. QSL via home call (QRZ.com).

ZA, ALBANIE

Raul, XE1MO, y sera actif du 1er au 9 novembre sous ZA1/XE1MO. Activités sur 40/20/15/10 mètres en SSB. QSL via XE1MO ou KE5FAH.

Le RADIO-CLUB DES FANES F5KDB activera du 08/11/0/ au 21/11/08 **TM9OAA** a l'occasion du 90éme anniversaire de l'armistice de la guerre 1914/1918 le 11 novembre 2008.

QSP de F4FIU Bruno

L'O.M. de la semaine : F8BRP

ANDRE F8BRP (84) - Plus de 10 ans au service des nouveaux radioamateurs

André n'a pas 6 ans quand il attaque ses premiers Dida-Da-di-di-di avec son frère. Stimulé par Tonton l'ancien militaire, le paternel imagine une installation filaire de haute technologie entre les chambres des enfants. Les transmissions fonctionnent parfaitement mais comme la prise de terre est branchée sur la canalisation d'eau, on entend parfois Maman crier dans la cuisine. L'enfance d'André sera consacrée à l'écoute de ces mystérieux signaux qu'il décodera peu à peu. Plus tard, sur la bande des 3 Mhz, il restera vissé à l'écoute des radioamateurs.

Un jour, il aura la surprise de recevoir des messages de la « Calypso » du Commandant Cousteau.

A 18 ans, à l'âge où la plupart des écouteurs découvrent leur passion, il tournera la page momentanément pour s'intéresser à des messages plus personnels lancés par de séduisantes opératrices…

Mais il reviendra très vite à ses premières amours. Dans les années 70, c'est l'avènement de la CB : un monde nouveau s'ouvre à lui. C'est la grande époque de la chasse aux quartz, des postes synthétisés et de la BLU. Il habite un HLM à Uzès et trafique dans la bande des 27 Mhz. Il rêve de son premier DX quand, un soir, il copie le Brésil : le bout du monde avec une antenne fixée à la bouche d'aération dans les combles.

C'est son premier grand souvenir de radio ! Il y en aura bien d'autres…

En 1990, il quitte son Gard natal pour le Vaucluse. Marié et père de famille, il a quelque peu délaissé la radio. C'est son fils qui retrouvera le vieux poste 27Mhz et qui le remettra sur les rails.

Premièr QSO effectué dans le vieux poulailler : on est loin des QSO avec Sao Paulo.

Le correspondant lui apportera sa QSL, en personne : il vient de Monteux, à quelques kilomètres.

Cet OM –encore un ancien militaire- lui fera connaître le club des radioamateurs du Vaucluse situé à Althen-des-Paluds. Là, André fera la connaissance de Yvan F1UNA , le formateur des cours techniques. Comme personne n'est disponible pour dispenser les formations de CW, André, au grand étonnement de tous, se portera volontaire. Il faut préciser qu'Yvan et André n'ont, à l'époque, aucun indicatif. C'est sous les conseils de leurs élèves que les deux « professeurs » se présenteront à l'examen et que notre SWL basculera du jour au lendemain dans le cercle très fermé des F8 , le 14 mars 1995.

Depuis cette date, la passion d'André a bien évolué, le matériel aussi.

Curieux de nature, il va explorer toutes les nouvelles techniques et s'initier à l'informatique. S'il touche à tout, principalement aux QSO par satellites, il regrette parfois d'avoir délaissé la langue de Shakespeare. Mais il n'oubliera jamais celle qui lui a apporté ses premiers émois : la CW

A côté de l'OM bien connu dans le Vaucluse, du Président de l'ARV84 (fonction qu'il a acceptée presque par intérim) c'est surtout le formateur que nous voulons, ici, honorer. En effet, F8BRP, non content de collectionner les QSL du bout du monde, affiche une incroyable disponibilité pour former les OM des trois classes au sein de son club ou, parfois, à son propre domicile. En 10 années d'activités, il a engrangé 26 indicatifs : 17 de classe 3 , 7 de classe 2, et 2 de classe 1.

A côté de ces chiffres, il faut souligner que 68 élèves s'étaient inscrits au cours. Malgré les découragements et les désistements, il est resté fidèle au poste. Quand on lui demande quelle est sa motivation, quel est ce feu sacré qui le pousse à continuer, il nous répond qu'il se souvient de sa propre expérience, de cette galère que représentait l'étude en solitaire. Il veut, tout simplement, donner ce qu'il n'a pas reçu. Pour tout ce qui précède et pour tout ce qui suivra, merci André !

Au nom des membres de l'ARV84-**F0FUR -Rappel : Salon de Monteux ARV84-Samedi 8 novembre**

Modification de filtres à cavités FUBA d’un réseau C-Netz

(matériel Allemand)

en duplexeur UHF 430/431 MHz.

F5RCT STRICKER Jean-Matthieu

Cette description vous permettra de réaliser, avec deux ensembles doubles cavités, un duplexeur UHF de 1.6 MHz de décalage ayant au moins 90 dB d’isolation et moins de 1dB de pertes !

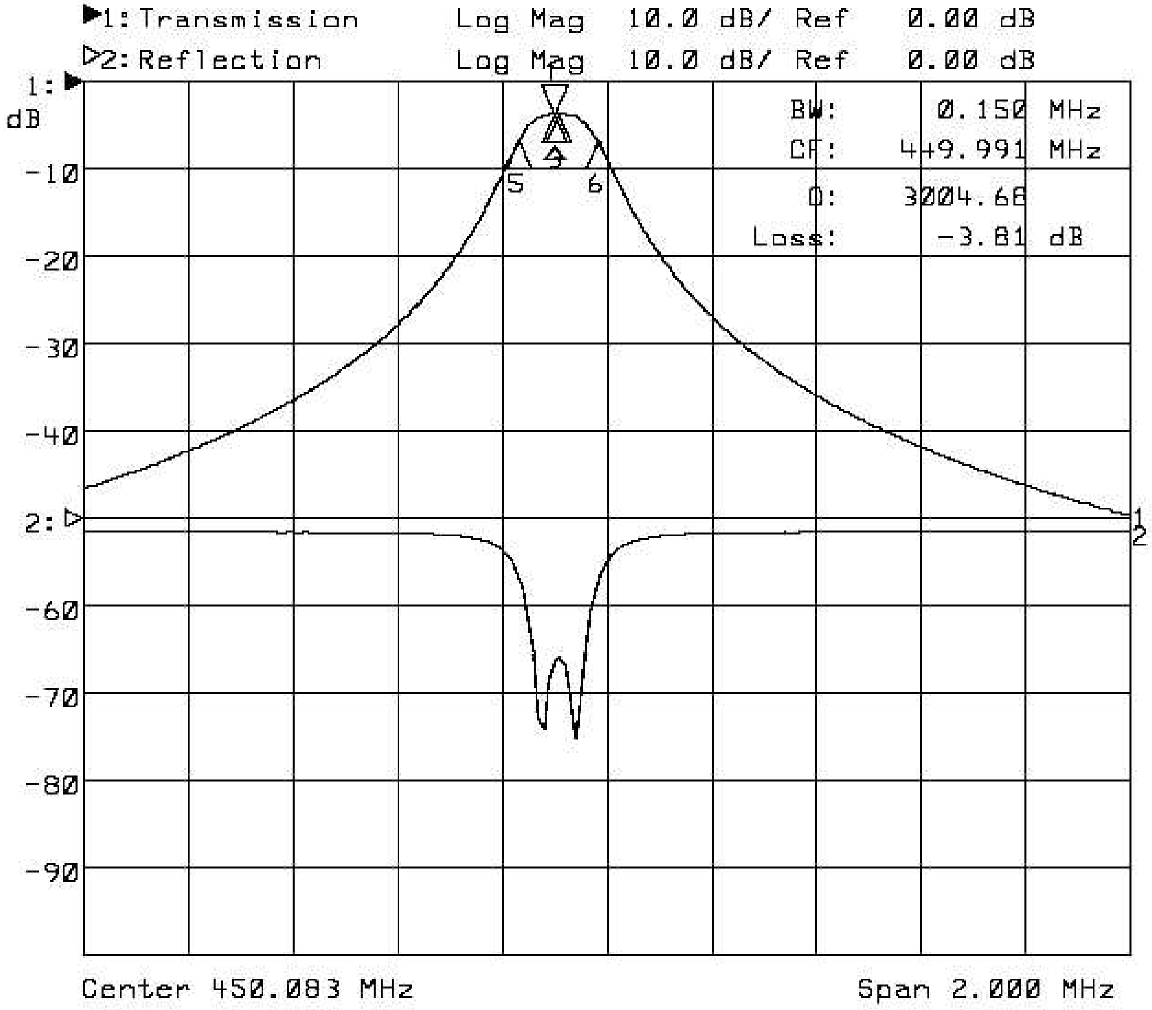
Matériel d’origine :

Ce matériel fut utilisé du temps des réseaux « Radiocom 2000 » en France et C-Netz en Allemagne. Une cavité ressemble à un tonnelet de bière de 20 litre. On les trouve sur les brocantes radioamateur en Allemagne.

Un tonnelet est formé de deux cavités passe-bande couplées entre elle par un trou de 2-3cm dans le plateau de séparation. Cet ensemble forme un filtre passe bande qui fait 150 kHz de largeur à 450 MHz. Le facteur de qualité est très élevé environ 3000.

On peut régler le facteur de couplage en desserrant les vis des boucles et en les tournant.

Vu le dimensionnement du piston il n’est pas possible de régler la fréquence à 430 MHz (le C-Netz était autour de 465 MHz).



Modification des pistons :

On démonte le piston et on soude une tôle de cuivre ou laiton qui dépasse de 10 à 15mm tout autour du piston. Chauffer le piston avec le « hotgun » (décapeur thermique) et souder à l'étain avec un gros fer. Le travail peut être grossier.

Une fois les pistons en place (attention au joint, le renter à chaque ¼ de tour), vérifier le décalage en fréquence par un assemblage sommaire des 2 cavités.

Fermer le plateau central :

Avec un bout de tôle que l'on soudera sur le trou pour le fermer. Préchauffer le plateau sur le gaz de la cuisine !

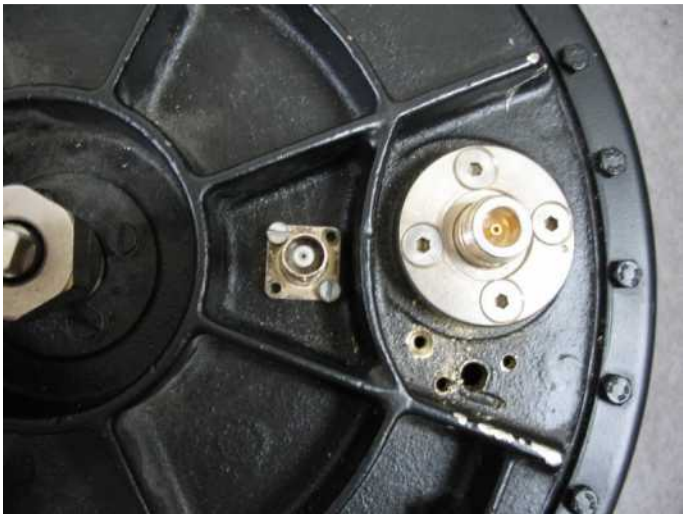
Modifier les boucles d'origine :

Les démonter (4 vis Alen), puis scier la boucle côté masse avec une scie à métaux et la dessouder du point central de la fiche N. Remonter les prises sur les cavités.

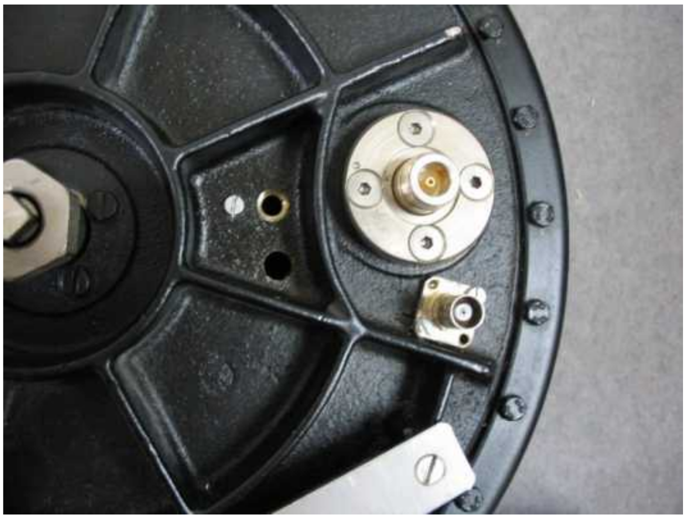
Percer pour y mettre une BNC :

Le matériau de base est du bronze argenté en surface. Attention bien bloquer la pièce lors du perçage et utiliser de l'huile de coupe pour le perçage.

Cavité passe-haut : percer une BNC dans la direction du rayon, alignée entre le poteau et la fiche N. il faut que le point central de la fiche soit à 10mm environ du piston. Attention aux nervures qui ne correspondent pas à la position du poteau interne.

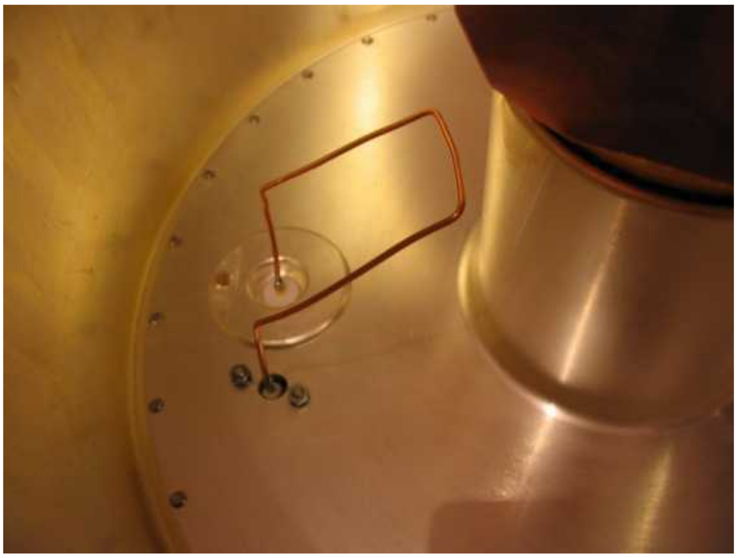


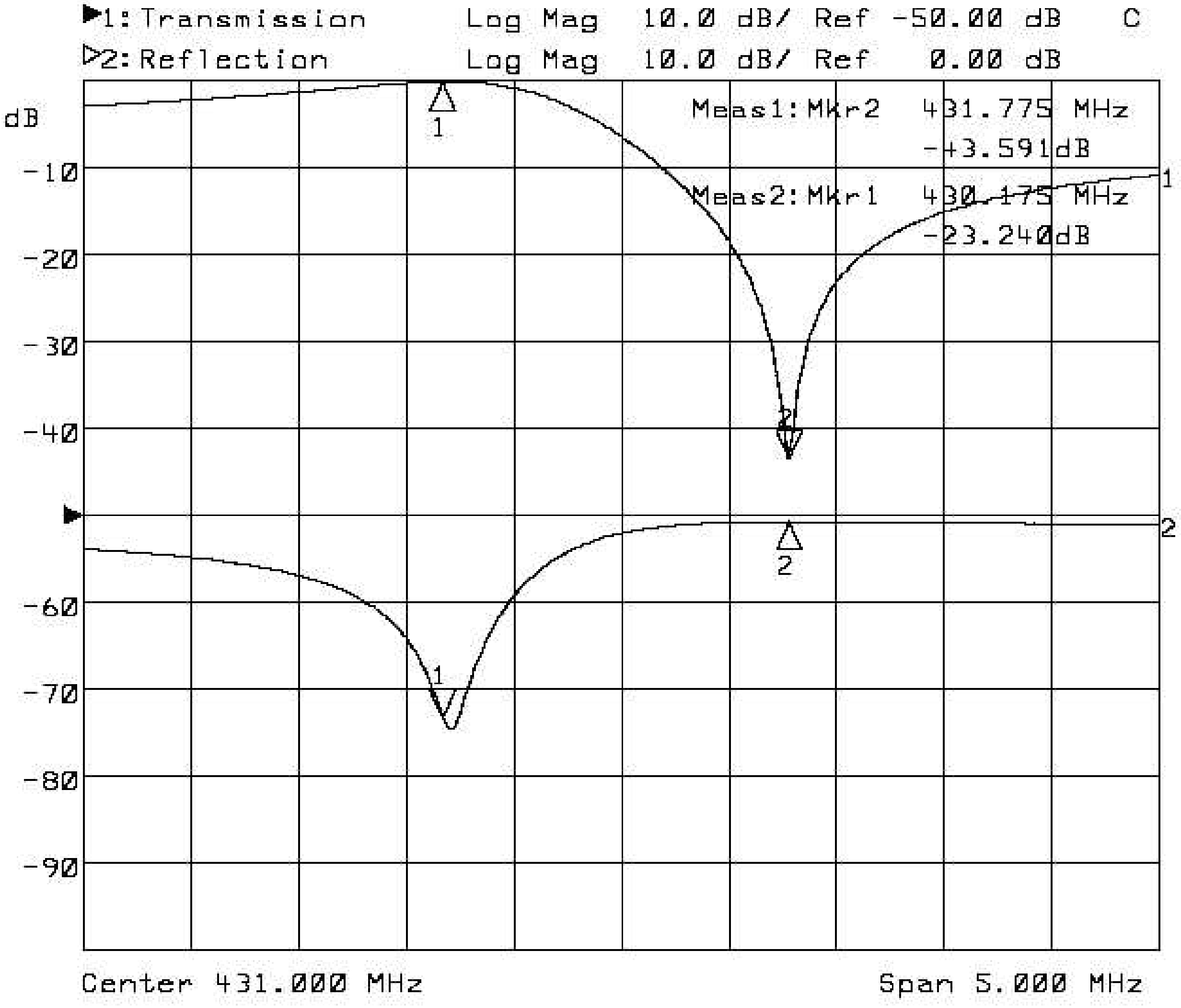
Cavité passe-bas : Percer une BNC sur la tangente au cercle de la prise N, au même rayon que le N.



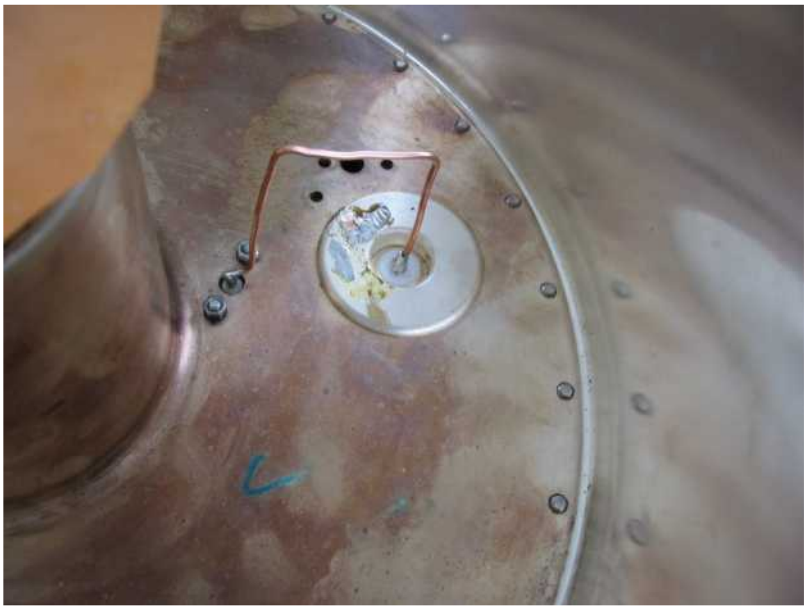
Cavité passe haut détail de la boucle :

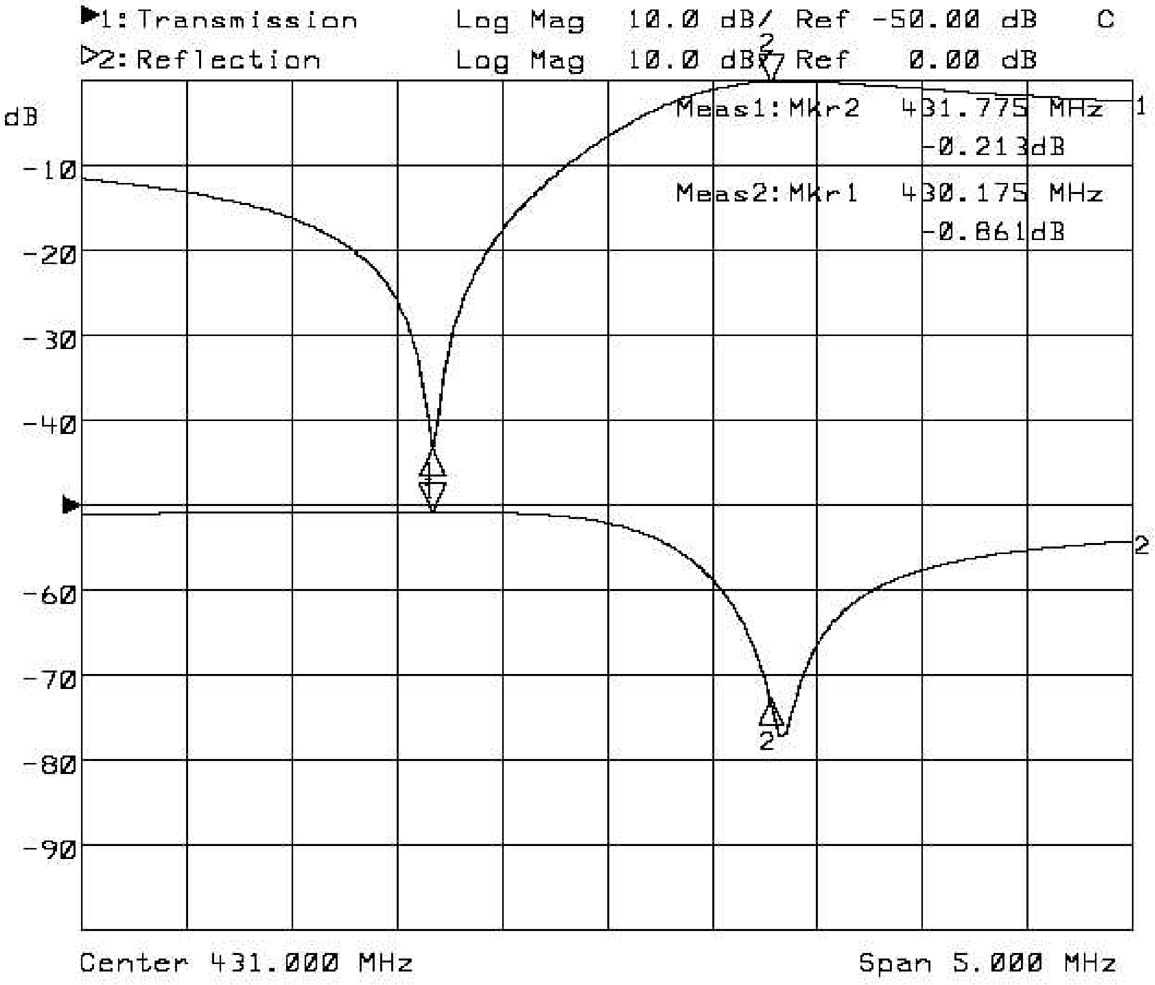
Prendre du fil électrique de 2.5mm carré (1.7mm de diamètre), ce n'est pas critique on peut aussi prendre du fil argenté. Réaliser une boucle qui ira pratiquement jusqu'à la hauteur du poteau central. Plier la boucle au 1/3 de la base. La hauteur du sommet de la boucle joue sur l'écartement des fréquences reject et pass . En approchant, le sommet de la boucle on optimise les pertes et le coefficient de réflexion de la fréquence pass. Pertes 0.4dB environ, S11 < -20db, rejection >40 dB.





Cavité passe bas détail de la boucle :
Réaliser une boucle rectangulaire légèrement plus haute que large, qui ira pratiquement jusqu'à la hauteur du poteau central.
La hauteur joue sur l'espacement des fréquences, recouper la boucle si nécessaire, on optimise les pertes et le coefficient de réflexion en approchant la boucle du poteau (déformation en trapèze). Pour les essais mettre la cavité en appui sur le plateau sans les vis.
Pertes 0.3dB environ, S11 < -20db, rejection >40 dB.





Réalisation des connections.

Pour l'assemblage du duplexeur, il convient d'avoir deux cavités du même type par voie. Pour cela, il faut assembler 2 à 2 une cavité passe-bas avec une cavité passe-haut. Ceci de façon à ce que les voies d'un même type se trouvent du même côté.

Nettoyer les cavités avec du « Céfè » ou tout produit pour l'argenterie.

Les longueurs de câbles entre les 2 cavités du même type sont critiques, il est difficile de trouver la bonne longueur car le centre de phase des cavités est inconnu.

Câble type RG223.

Câble « 1 » PB/PB, fiche N et BNC, 796 mm entre les extrémités des connecteurs

Câble « 2 » PH/PH, , fiche N et BNC, 585 mm entre les extrémités des connecteurs

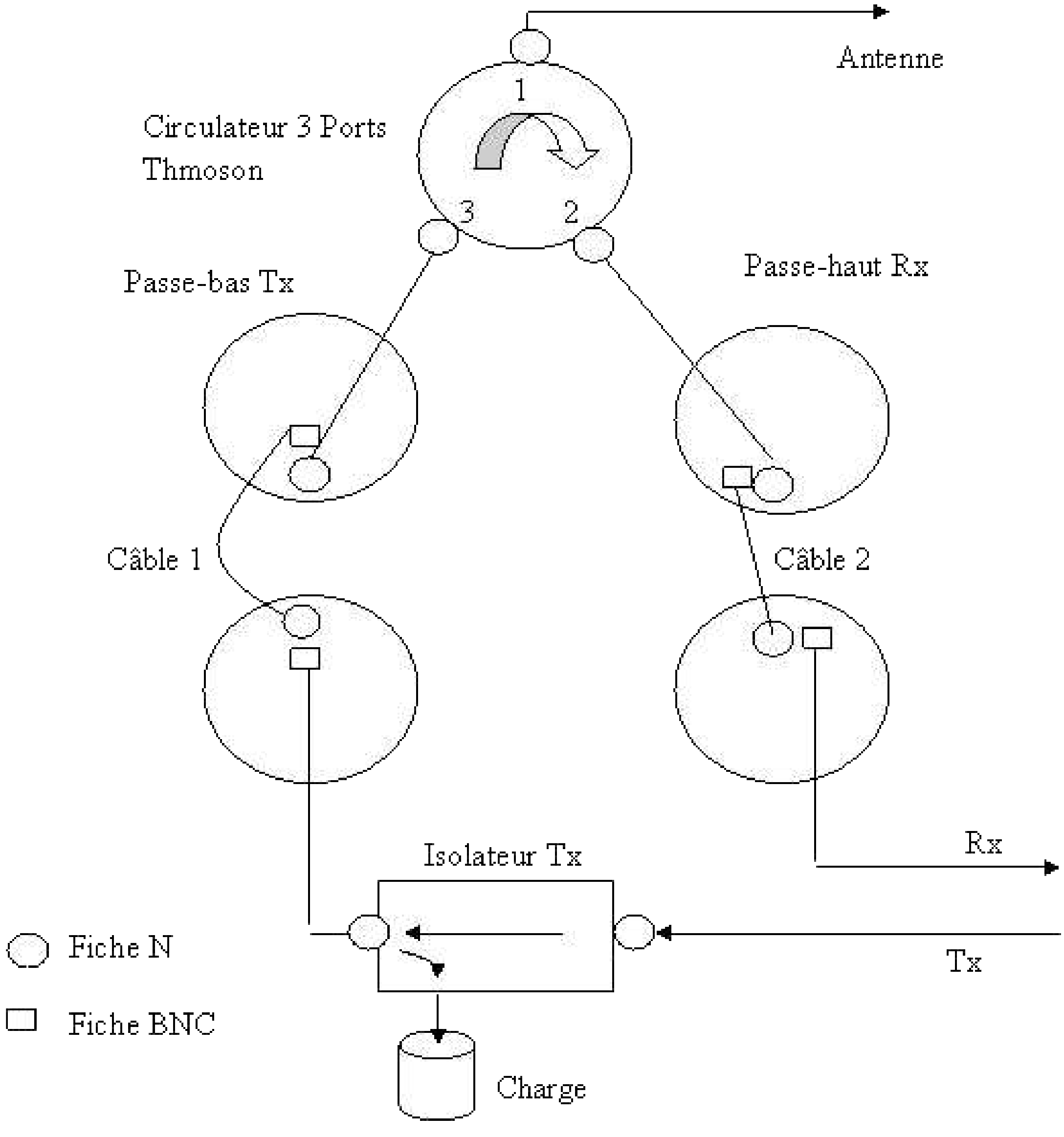
Couplage des voies RX et TX :

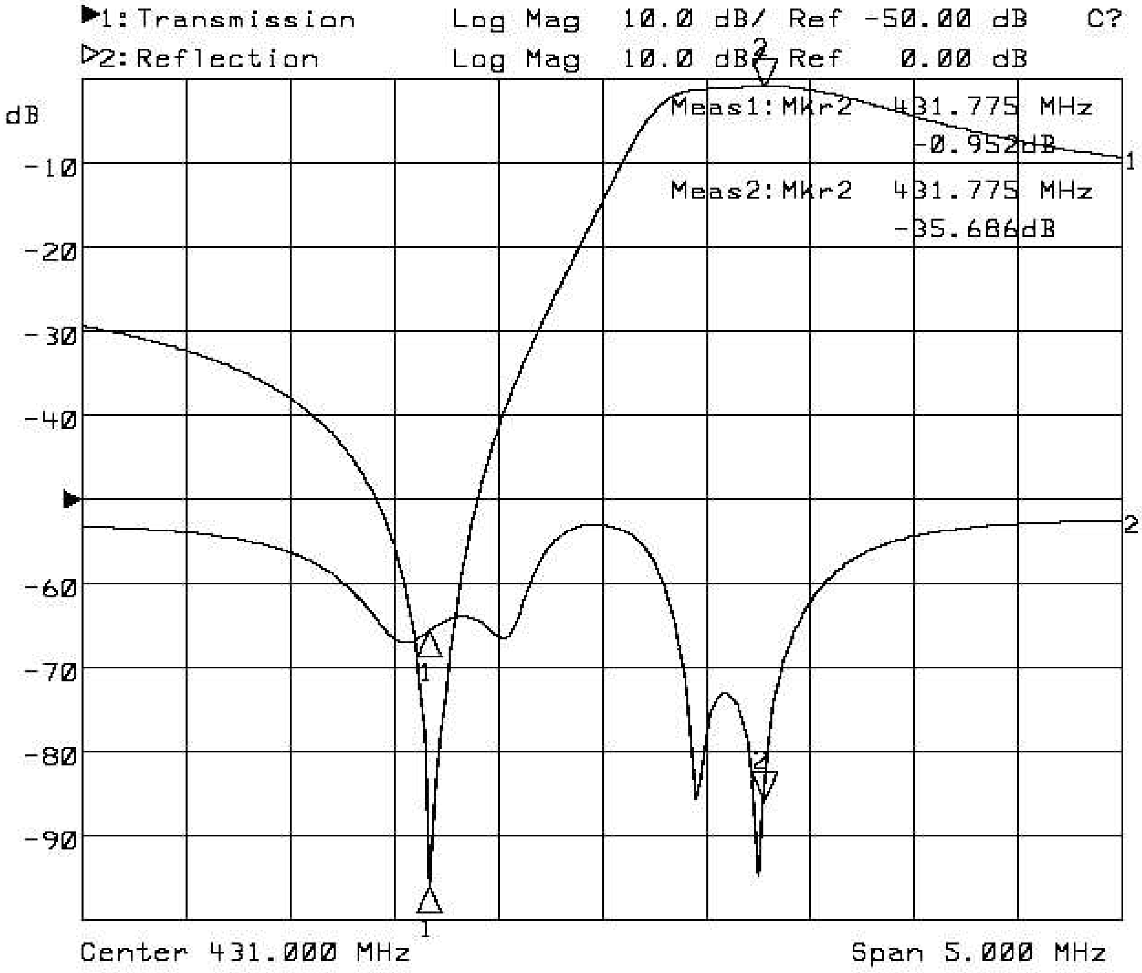
Ce couplage peut s'effectuer avec un T mais il faut ajuster les longueurs des coax. On peut coupler avec un circulateur 430 MHz type Thomson : antenne sur le port 1, voie Rx sur le port 2, voie Tx sur le port 3. Avec un cirulateur les longueurs de câble ne sont pas critique et on gagne 20dB d'isolation entre Rx et Tx.

Protection de l'émetteur :

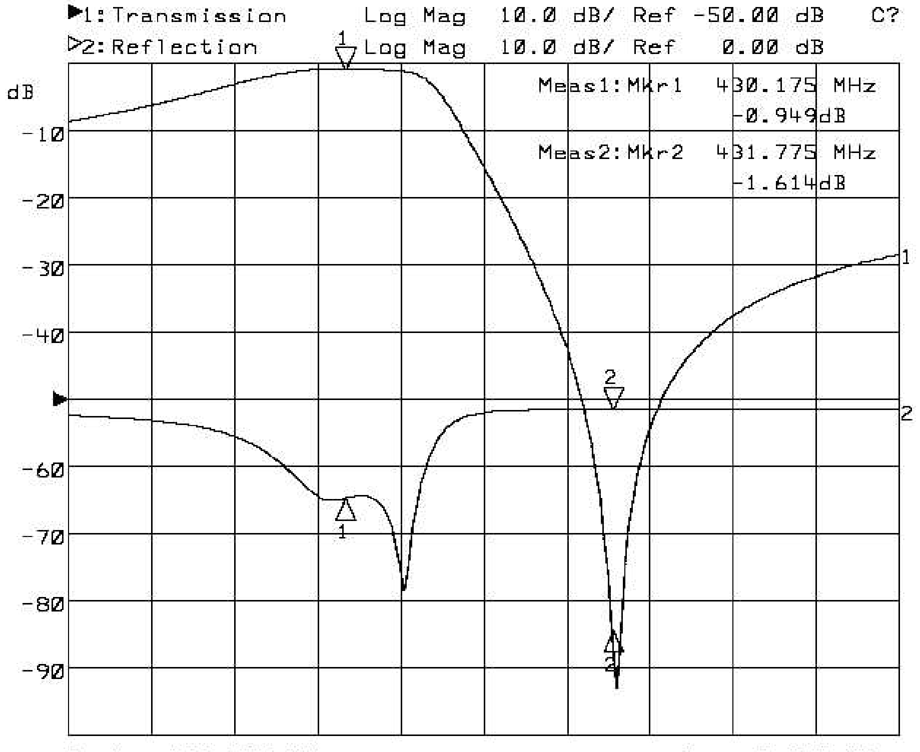
On peut mettre un autre circulateur ou isolateur avec une charge poubelle entre la sortie du PA et la cavité Tx.

Avantage : -le PA voit toujours 50 ohms, il est protégé par la charge poubelle.
-la cavité Tx voit toujours 50 Ohms sur toute la bande RX et Tx

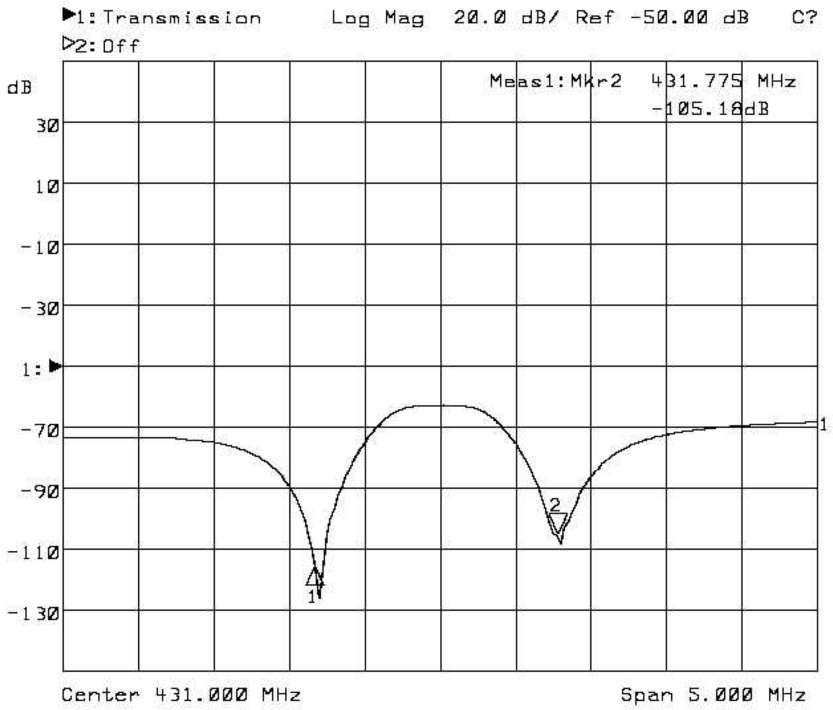


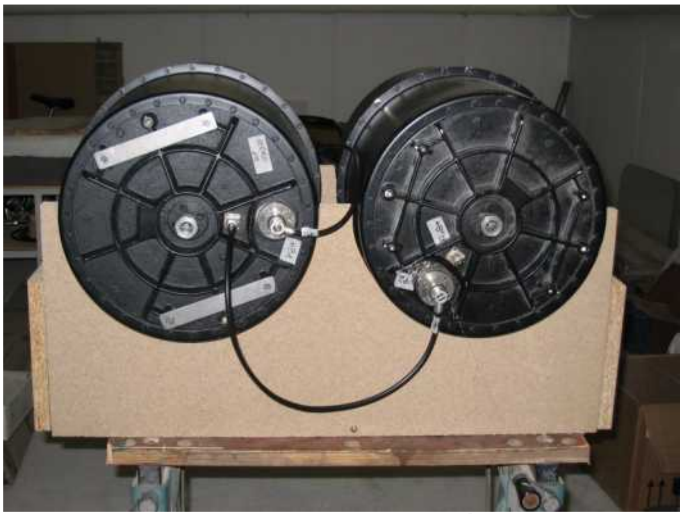


Réponse Rx Antenne :

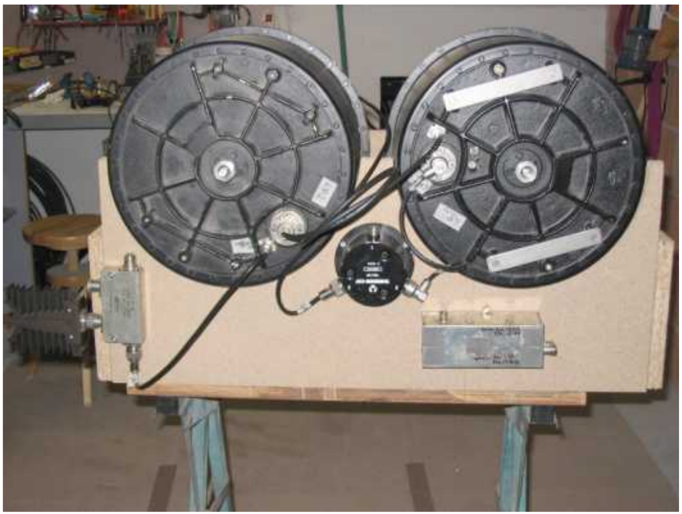


Isolation RX/TX avec charge sur antenne :





Duplexeur assemblé :
Vue arrière du côté passe haut



Vue avant côté passe-bas :
A gauche, l'isolateur Tx avec sa charge poubelle.
Au centre le circulateur de couplage antenne.
A droite un duplexeur UHF /VHF pour le couplage à une antenne verticale bi-bande.

73's de F5RCT
F5rct.jm'@'gmail.com

Les grandES oreilles

Rubrique SWL
de Franck F14368

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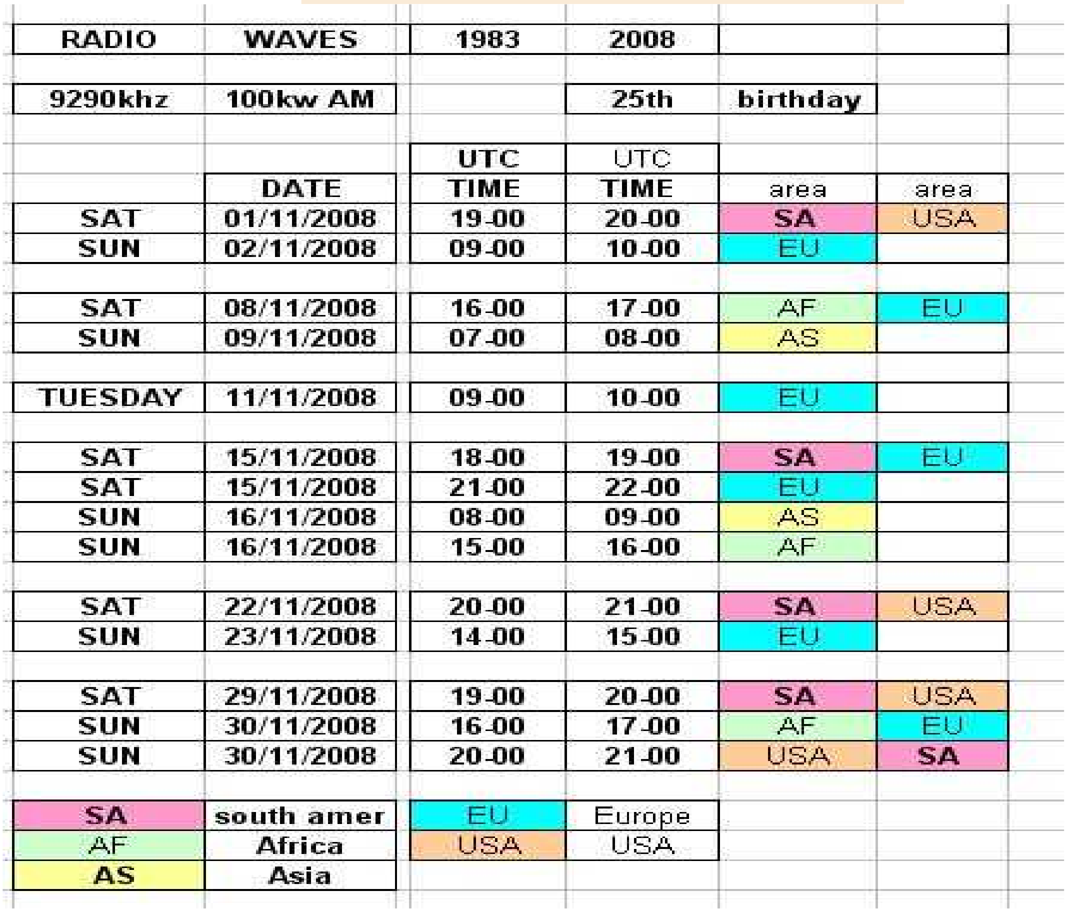

RADIO	WAVES	1983	2008		
9290khz	100kw AM		25th	birthday	
		UTC	UTC		
	DATE	TIME	TIME	area	area
SAT	01/11/2008	19-00	20-00	SA	USA
SUN	02/11/2008	09-00	10-00	EU	
SAT	08/11/2008	16-00	17-00	AF	EU
SUN	09/11/2008	07-00	08-00	AS	
TUESDAY	11/11/2008	09-00	10-00	EU	
SAT	15/11/2008	18-00	19-00	SA	EU
SAT	15/11/2008	21-00	22-00	EU	
SUN	16/11/2008	08-00	09-00	AS	
SUN	16/11/2008	15-00	16-00	AF	
SAT	22/11/2008	20-00	21-00	SA	USA
SUN	23/11/2008	14-00	15-00	EU	
SAT	29/11/2008	19-00	20-00	SA	USA
SUN	30/11/2008	16-00	17-00	AF	EU
SUN	30/11/2008	20-00	21-00	USA	SA
SA	south amer	EU	Europe		
AF	Africa	USA	USA		
AS	Asia				

Pour les nostalgiques, rendez-vous sur http://amitieradio.monsite.wanadoo.fr/
La Havane est sur http://www.radiohc.cu/frances/portada.htm
On pourra toujours cliquer sur « Réflexions de Fidel Castro ».
La Croatie est sur http://www.hrt.hr/. La maîtrise de la langue croate est nécessaire.
A propos de langues exotiques, la consultation de La Voix de la Grèce :
http://www.voiceofgreece.gr

QSP de Philippe Gondard

Un site à découvrir

Daviken nous propose un site spécialisé dans HAMateurs de matériels **Ham-International**
Il a créé il y déjà quelques années ce site (historique, produits, infos techniques, etc).
Aujourd'ui il existe aussi un Forum consacré à ce sujet qui rassemble quelques collectionneurs attachés à la marque mais pas seulement...
http://www.ham-international.com/
http://ham-international.nuxit.net/phpBB_3.01/index.php

Un site très bien fait et qui nous fait faire un petit bond dans le temps.

nos prix sont concurrentiels !

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équipé d'un DSP FI très efficace
et un TX très robuste pour du "tout terrain"

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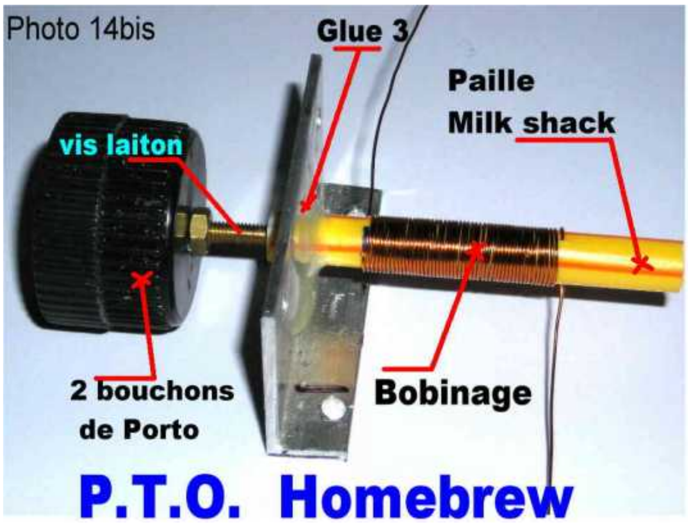
LES RÉALISATIONS DE LA **LIGNE BLEUE**
LE SAVOIR-FAIRE RADIOAMATEUR
MANUEL de CONSTRUCTION du * P.T.O. *
Une collaboration de F5RAZ et F6BCU

POUR REJOINDRE GROUPE BINGO QRP :
http://fr.groups.yahoo.com/group/Groupe_BINGO_QRP_SSB_CW/



Pour construire un récepteur, un émetteur, un transceiver QRP SSB ou CW, il faut être maître du choix de la fréquence à émettre ou à recevoir. La plus ancienne des solutions est le pilotage par quartz et VXO. Avec le quartz la fréquence connue est fixe, avec le VXO la variation de fréquence réduite. Il existe aussi la solution du super VXO avec une large variation de fréquence et pour terminer le VFO. Les synthétiseurs et autre VFO DDS sont considérés hors sujet car trop complexes.

Le VFO et le super VXO sont en majorité articulés sur l'usage du condensateur variable qui pour le modèle à isolement par air est désormais un luxe rare et cher. Les jeunes générations d'Oms en sont démunies, il faut le savoir. Nous avons développé sur nos séries de transceiver BINGO SSB et CW l'usage du potentiomètre multi-tours et une substitution de la diode Varicap classique par une diode Zener de 24 à 30 volts qui fonctionne fort correctement. D'autres composants peuvent encore se substituer à la diode Varicap notamment des diodes de commutation, divers transistors bipolaires et Mosfet dont la capacitance interne présente une variation utile en fréquence. Malheureusement la dispersion des caractéristiques d'un composant à l'autre est importante, lorsque l'on met en jeu la capacitance interne. Par exemple un même VFO avec des composants de même référence peut varier avec la même tension de commande, de 100 à 300 KHz. Cette disparité, nécessitant bien souvent un tri pour choisir la meilleure diode, le meilleur transistor.

Mais il existe un autre système de commande de fréquence non basé sur la variation de capacité, mais celle de l'inductance. Ce système a été développé spécifiquement aux U.SA par la firme Collins avec la série 75A, Drake et les séries TR4 et R4, Ten-Tec avec les Argonaut, Corsaire, Argosy…etc…

Côté radioamateur aux USA l'usage de ce système à variation d'inductance commence à se développer depuis les années 2002 dans les Clubs QRP (Norcal avec le transceiver 2030 CW). Quelques Kits de transceivers, SSB et CW sont aussi disponibles (transceiver MMR40 SSB de QRP Kits). En Europe quelques rares constructions OM ont été observées dans les ex-pays de l'Est.
Ce système de variation de la fréquence vraiment révolutionnaire est le** P.T.O**.
(Permeabililty tuning oscillator).

Principe de fonctionnement du P.T.O. construction OM

Le P.T.O. construction OM est présenté sur la photo 14 bis. Une vis en laiton Ø 3mm I.S.O. est mobile à l'intérieur d'un bobinage qui est enroulé spires jointives sur un mandrin en plastique.
Ce mandrin en plastique est issu d'une paille de boisson « Milk shack » dont le diamètre extérieur est de 7mm. La vis en laiton est vissée et guidée dans un cylindre en polyamide de Ø extérieur 7mm et de longueur 12mm ; il est enfoncé à force dans la paille qui se dilate. L'ensemble est ajusté gras dans un trou de diamètre 7mm percé sur l'une des faces d'une cornière aluminium en équerre. L''immobilisation du P.T.O est assurée à la colle cyanolite «Glue 3» ou à «l'Araldite rapide» suivant le modèle d'assemblage (ajustage bien gras de la «Glue 3» suffit, ajustage avec du jeu, « l'Araldite » est parfaite).

Spécificités techniques du P.T.O. *(notes des expérimentations de l'auteur)*

- Lorsque la vis en laiton est enfoncée sur la longueur totale du bobinage la fréquence de résonance est la plus haute, l'inductance de la bobine la plus faible.
- Vis quasiment sortie du bobinage la fréquence de résonance est la plus basse, l'inductance de la bobine est le plus élevée.
- En pratique, la longueur de la bobine en fonction du diamètre du fil émaillé de 0,2 à 0,4 mm varie de 12 à 20 mm, spires jointives suivant nos fréquences de travail.
- La fréquence des P.T.O. testés va de 3 à 14MHz, les fréquences pratiquement utiles vont de 3 à 10 MHz pour la réception et l'émission..
- En pratique la couverture de fréquence d'un P.T.O. en fonction de la fréquence la plus haute est de 170 KHz environ à 10 MHz pour 15 tours de vis.
- Sur la fréquence la plus basse se sont 80 KHz de variation à 3 MHz pour 12 tours de Vis.
- La vis est réglée en butée complètement enfoncée pour la fréquence la plus haute.
- En moyenne la vis sort de 7 mm sur 7 MHz. Pour 100 KHz de variation de fréquence, on compte 10 tours de vis.
- Par tour de vis en fonction de la fréquence se sont 10 à 15 KHz de variation.

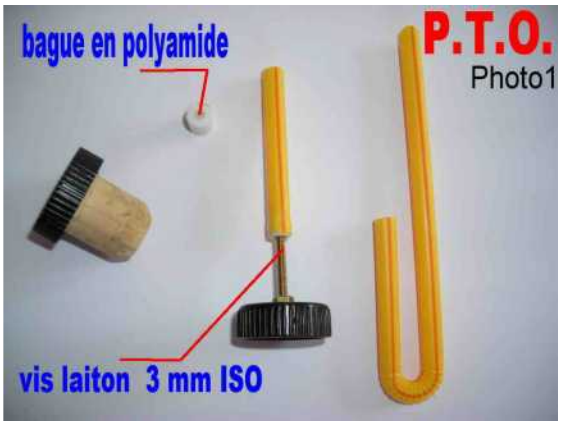
Remarque de l'auteur

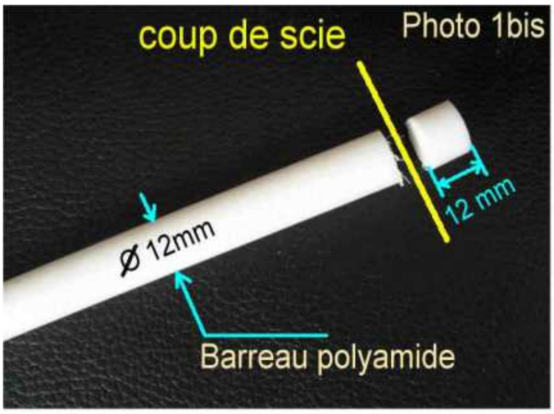
La rotation de la vis Ø 3mm I.S.O. guidée dans le cylindre en polyamide percé à Ø 2mm est gras.
La douceur de la rotation n'engendre aucun saut de fréquence et piaulement sur une fréquence comme le 7 MHz.

CONCLUSION

Nous avons construit plus de 6 montages P.T.O. avec vis Ø 3mm I.S.O. et 2 autres avec vis Ø 4 mm I.S.O. L'expérimentation a aussi été faite sur 2 récepteurs à conversion directe, pilotés par PTO Vis Ø 3 mm I.S.O. sur 40 m et vis Ø 4mm I.S.O. sur 80 m.
Le P.T.O. est l'organe mécanique de commande de l'oscillateur « TESLA – VACKAR » sur nos montages expérimentaux. La stabilité exceptionnelle de l'oscillateur « VACKAR » va nous inciter à l'utiliser sur quelques nouveaux transceivers BINGO SSB CW et autres récepteurs à conversion directe spécialement développés pour les débutants.

CONSTRUCTION DU P.T.O.





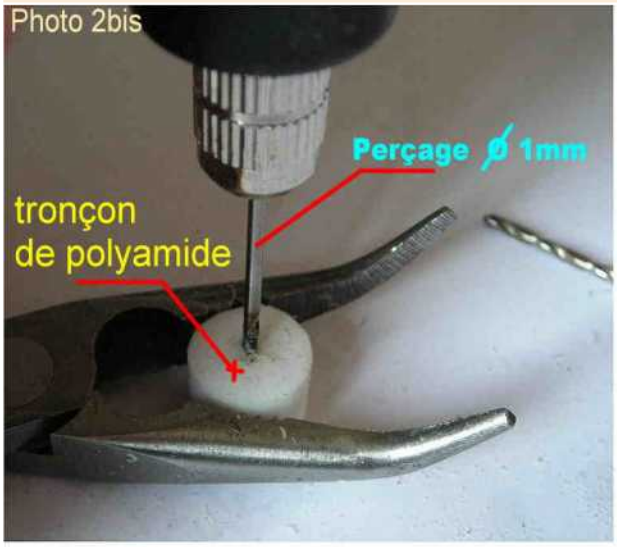
ÉLÉMENTS CONSTITUTIFS DU P.T.O.
Le P.T.O. fabrication Om se compose de trois éléments essentiels (photo 1) :

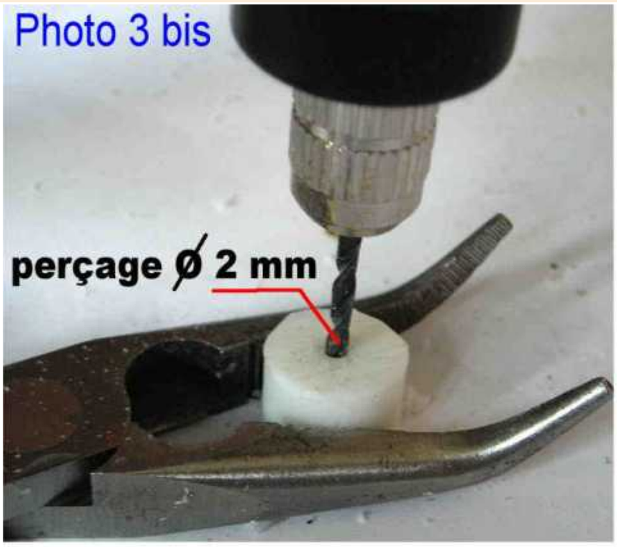
1. La vis en laiton Ø 3mm I.S.O.,
2. La paille en plastique « Milk shack » Ø 7mm extérieur,
3. la bague (tronçon) en polyamide.

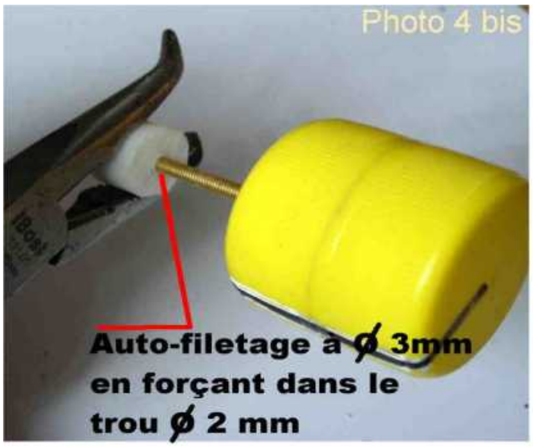
Quant au bouton de commande qui est solidaire de la vis il est très économique et bon marché ; C'est un morceau de bouchon de bouteille de vin ou d'apéritif en matière plastique ou autre bouchon ou capsule d'eau minérale.

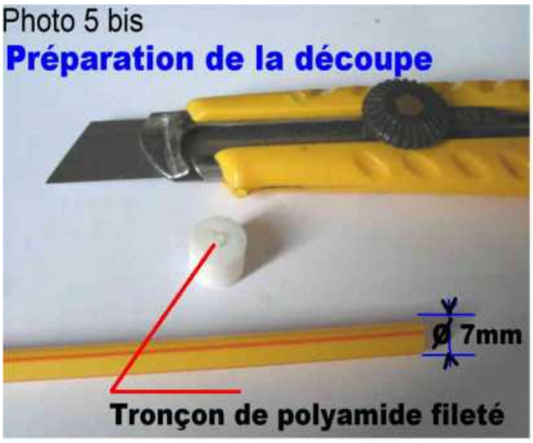
FABRICATION DE LA BAGUE (tronçon) en polyamide
Il existe dans le commerce par exemple chez « Conrad Électronic » dans les pages maquettisme du catalogue de vente par correspondance ou sur le site Internet Conrad, des barreaux en polyamide blanc de différents diamètre (Ø 8, 10, 20 mm, page 605 catalogue 2009). Nous avions à disposition du 12 mm, mais il faut simplement que le barreau soit supérieur en diamètre à 7 mm.
La photo 1 bis donne la marche à suivre : il faut scier du barreau un tronçon de 12 mm de longueur.

La 2ème phase du travail consiste à percer en 2 fois au centre du tronçon un trou de 1 et 2 mm. comme c'est visible sur les photos 2 et 3 bis.

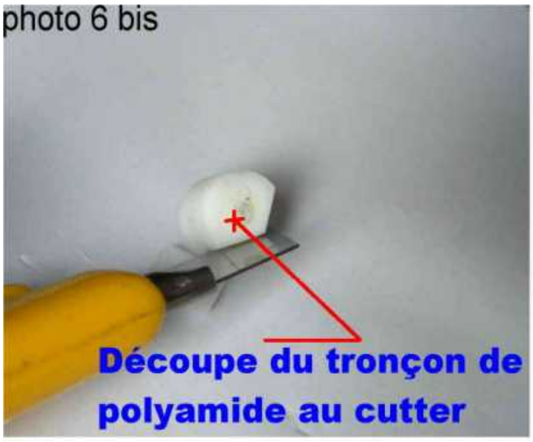




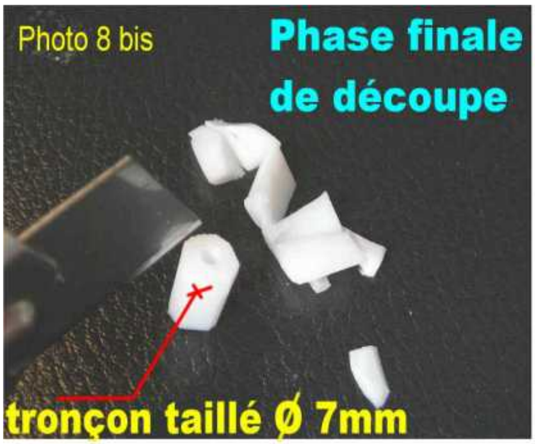


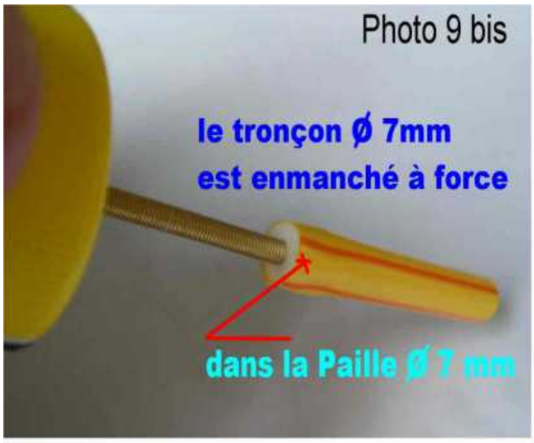


Lorsque le trou de Ø 2 mm est percé on y insère en vissant à force (auto-taraudage ou auto-filetage)
la vis laiton de Ø 3 mm I.S.O. qui fait son logement. Visser et dévisser à plusieurs reprises pour bien roder le nouveau filetage. La rotation de la vis est grasse et douce sans jeu. Il existe un phénomène de compression très utile, le polyamide se referme sur lui-même. Ce phénomène est l'auto-rattrapage du jeu. Cette 3ème phase terminée, passons à la 4ème.



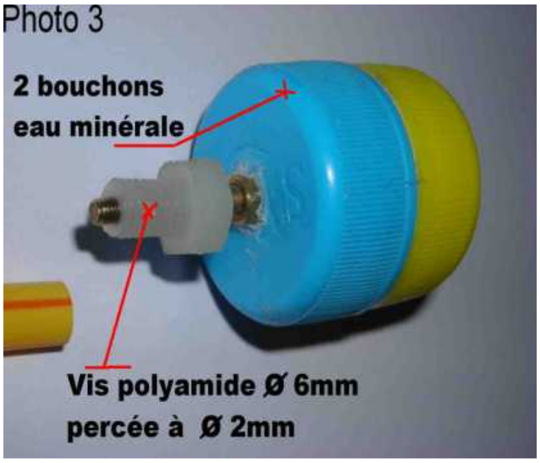
La 4ème phase consiste à découper le tronçon de polyamide comme indiqué sur les photos 6, 7 et 8 bis.

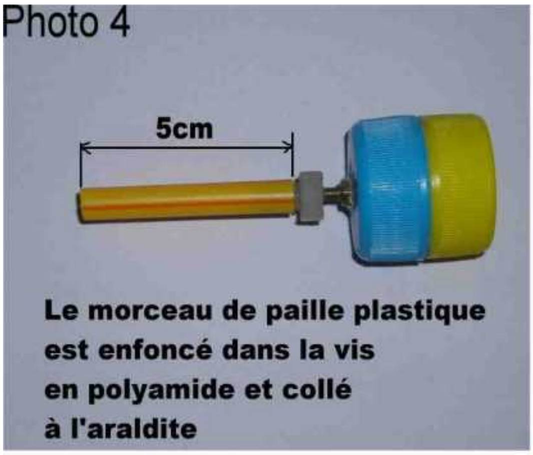




En phase finale on obtient une bague de Ø 7mm dont la forme sans être parfaitement cylindrique et légèrement hexagonale. L'opération finale consiste à enfoncer en forçant le tronçon (bague) de Ø 7mm dans la paille. La photo 9 bis nous montre le résulta obtenu. A l'usage la solidarité bague polyamide et paille sont très solides la matière plastique de la paille se rétracte sur la bague.

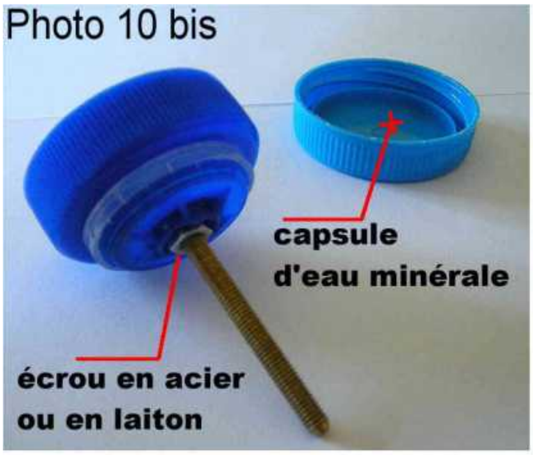
AUTRE SYSTEME DE CONCEPT DU P.T.O.

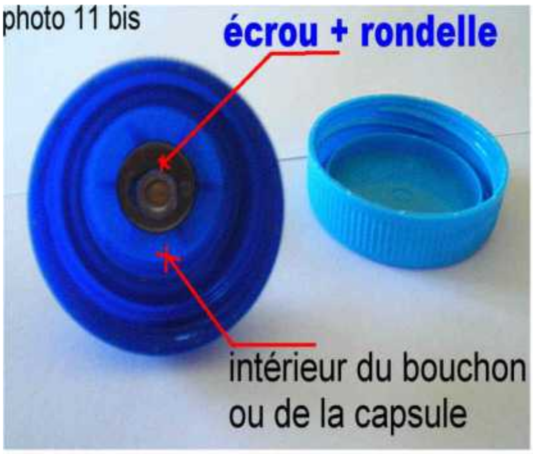




Les photos 3 et 4 informent sur une autre idée de concept du P.T.O., avec une vis en nylon de diamètre 6 mm. Le problème rencontré est la dureté du nylon qu'il faudra tarauder avec un véritable taraud de Ø 3 mm I.S.O. Cette solution est aussi à envisager. Quant à la fixation de la paille sur la vis nylon utiliser de la colle « Araldite » rapide.

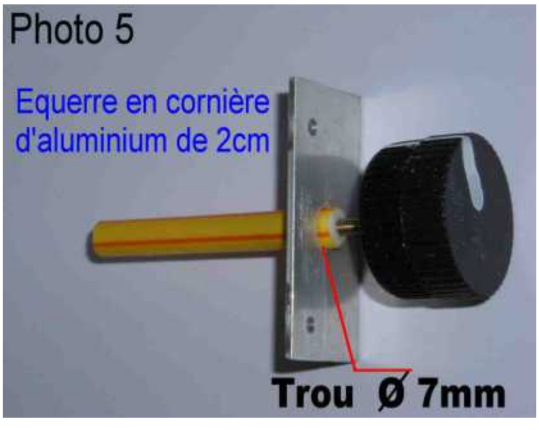
ASSEMBLAGE DU BOUTON DE COMMANDE

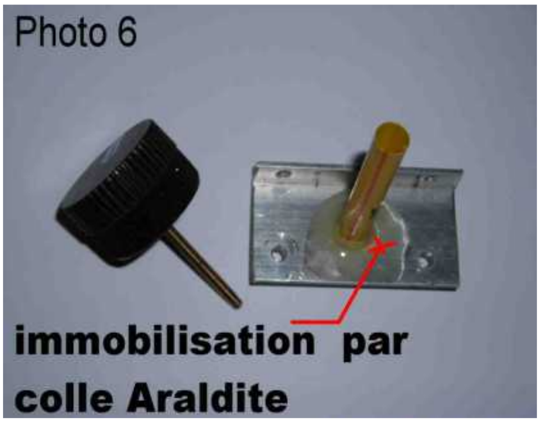




Voici un autre détail de la construction du P.T.O. : la fixation du bouchon d'eau minérale sur la vis en laiton. Ce système de fixation très simple est immobilisé définitivement avec quelques gouttes de colle cyanolite « Glue3 ». L'éventail des bouchons et capsules d'eau minérale est important comme le choix des diamètres. Sur la photo 10 bis le bouchon bleu fait 40 mm de diamètre, à considérer comme étant déjà important et bien en main.

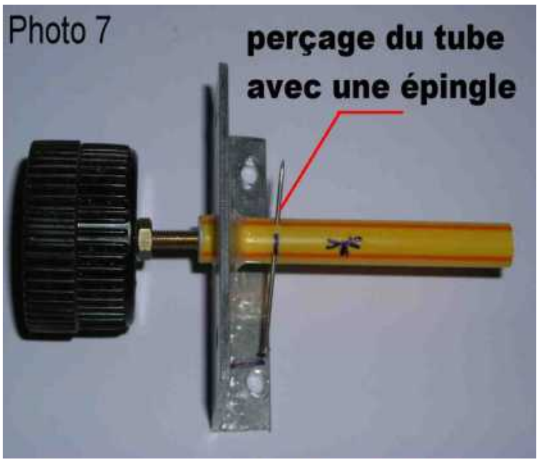
ASSEMBLAGE DU P.T.O.

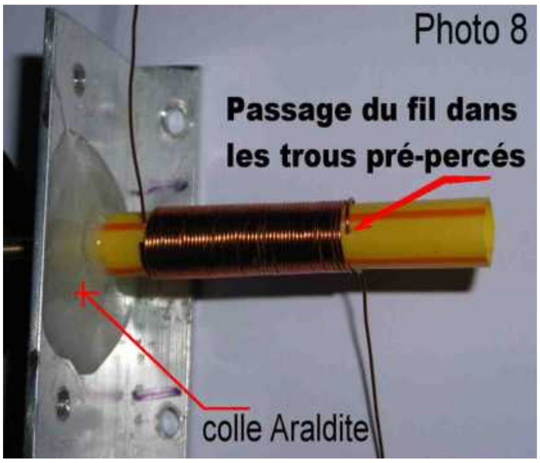




Le P.T.O est fixé sur une cornière en aluminium, profilé en équerre de 20 X 20 mm. Sur chaque face de l'équerre nous avons percé 2 trous Ø 4mm. Ainsi d'une part nous avons possibilité de fixer le P.T.O. en façade avec accès au bouton d'accord en commande extérieure et d'autre part fixation du circuit électronique avec transistors et autres composants de l'oscillateur.

Le P.T.O. traverse la cornière d'aluminium photo 5. Exemple d'immobilisation par colle «Araldite» figure 6.

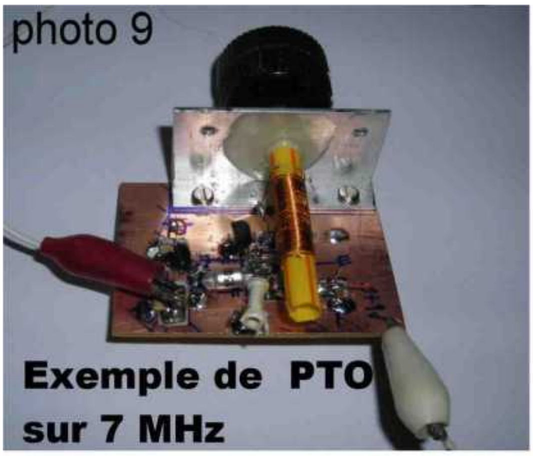


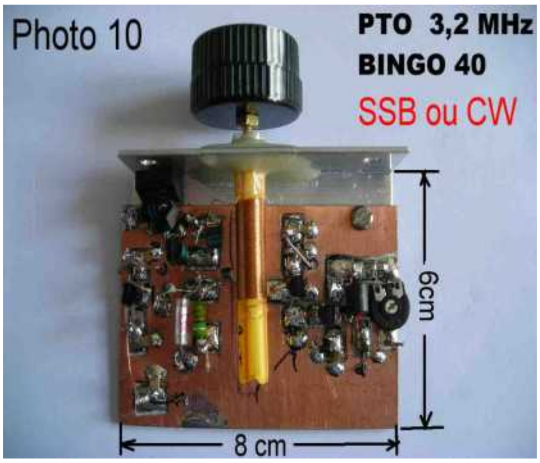


Lorsque le P.T.O. est bien collé, il faut envisager la méthode pour pouvoir fixer le bobinage enroulé sur la paille. La solution la plus est de percer tangentiellement avec une épingle photo 7 la paille, et passer dans les 2 trous percés avec l'épingle le fil du bobinage.

A la fin de l'enroulement photo 8 nouveau perçage avec l'épingle et passage du fil dans les 2 trous.

Ce système simple confère une excellente finalisation et fixation de l'enroulement sur la paille.





Voici les photos 9 et 10, deux exemples de P.T.O. oscillateur VACKAR sur 7 et 3.2 MHz.

CONCLUSION

Le P.T.O de par sa simplicité, sa facilité de construction et son petit prix de revient, offre d'énormes possibilités en réception pour les débutants, les radio-clubs, et en émission, le pilotage des transceivers QRP SSB et CW notamment les séries BINGO.

Fin de la 1ère partie

Article écrit par F6BCU- Bernard MOUROT
9 rue de Sources—REMOMEIX--VOSGES
14 juin 2008

F6HQY Une Antenne entre les dents

Bernie de F6HQY nous propose sur un ton comique et incisif, une nouvelle concernant notre monde radioamateur. A prendre au second degré, cette nouvelle en plusieurs parties s'intitule :

CHATEAU FOIREUX (4ème partie)

Toute ressemblance avec des personnages existant ou ayant existé est fortuite et involontaire de

La fine équipe était un peu tassée dans le Scénic d'André car ils avaient finalement pas mal de choses à emporter pour l'activation, Robert avait d'ailleurs insisté pour qu'on trouve une place au matériel de camping qui lui semblait indispensable afin de goûter au mieux les plats qu'il avait préparés. L'installation de l'ampli d'André dans le coffre avait été un moment délicat car, lorsqu'il avait dit que l'ensemble pesait le poids d'un âne mort, ce n'était pas une figure de style. Tout ce qu'il avait trouvé à répondre pendant que les autres peinaient à installer le truc était qu'on construisait solide dans le temps, pas comme aujourd'hui où le matériel se cassait de peur...

Le temps était beau, 18 degrés en ce moment même, et la météo annonçait 25 degrés vers midi, quelques nuages et une pression barométrique à la hausse. Tout était donc pour le mieux sauf que Robert ne cessait de houspiller André qu'il trouvait trop timoré au volant :

- Merde, André, tu vas te décider à le doubler ce camion ? Ça fait une heure qu'on le suit ! A ce rythme, on n'arrivera pas à l'heure pour l'apéro...
- Ecoute, je suis en rodage et je ne tiens pas à trop pousser le moteur. Tu peux comprendre ça, non ?
- Allons les gars, du calme, de toute façon, on est presque arrivés. Tu tourneras à droite à la prochaine...

Jacques feuilletait depuis un moment le manuel de l'IC706 et trouvait que le maniement de cet appareil était bien compliqué, il avait d'ailleurs du mal à comprendre le fonctionnement du shift pour le trafic via relais, il aurait trouvé normal qu'il n'y ait qu'un bouton à activer mais non, il fallait apparemment se servir des deux VFO du poste.

- Bon sang, c'est compliqué ce truc... Tu sais te servir du poste Cédric ?
- Oui, ne t'inquiète pas.
- Ha ! Nous sommes presque arrivés... Prends le premier chemin que tu verras sur ta gauche.

Le Scénic finit par pénétrer dans une cour assez vaste bordée par un bâtiment en forme de «U ». L'ensemble n'avait pas fière allure et il était clair que l'entretien des locaux n'était pas le souci premier du Vicomte. Sans doute qu'il n'en avait pas les moyens. Où l'envie. Une petite tour s'élevait dans un angle, c'était d'ailleurs la seule chose qui pouvait, à la limite, faire penser à un château, et Jacques se dit aussitôt que ce serait l'endroit idéal pour monter l'antenne. André arrêta la voiture au milieu de la cour en disant :

- C'est marrant, mais on dirait qu'il n'y a personne... Tous les volets sont fermés d'ailleurs...
- Tu n'as qu'à klaxonner, fît Robert, ça va réveiller le Vicomte !
- Tu crois ?
- Mais oui, vas-y !

Jacques et Cédric étaient sortis du véhicule tandis qu'André activait le Klaxon. Une fenêtre s'ouvrit enfin et une tête mal rasée apparut :

- Qu'est-ce que c'est que ce bordel ! Foutez le camp !
- C'est nous, monsieur le Vicomte ! Les radioamateurs !
- Connais pas ! Foutez le camp nom de Dieu ! Ou je vais tirer !

Pour appuyer ses dires, le canon d'un fusil apparût dans l'encadrement de la fenêtre. Jacques se mit à agiter les bras en signe d'apaisement pendant qu'André, verdâtre, restait accroché à son volant. Prudent, Cédric s'était retranché derrière le Scénic.

- Foutez le camp ! Je ne le répèterai pas !...
- Monsieur le Vicomte, je suis le président des radioamateurs ! Nous nous sommes rencontrés il y a quinze jours et vous étiez d'acc...

Un coup de feu partit et un trou se forma instantanément dans la portière arrière droite du Scénic. Un deuxième coup de feu fît voler en éclat la vitre de cette même porte. Il n'en fallut pas plus pour que la fine équipe se jette, qui à même le gravier de la cour, qui sous le tableau de bord du véhicule. Tout le monde braillait en même temps :

- Ce type est malade !
- Monsieur le vicomte, calmez-vous !
- Ma voiture ! Putain de moine ! Elle était toute neuve !
- Foutez le camp nom de Dieu, je suis en train de recharger !

La situation était complètement bloquée et le tableau d'ensemble assez surréaliste. Un nouveau coup de feu claqua et un nouveau trou apparût dans la portière du Scénic, ce qui fît carrément pleurnicher André. « Une voiture toute neuve ! Je vous avais bien dit que je ne voulais pas la prendre... ». Robert eût une idée. Il se releva légèrement sur le siège avant et agita un kleenex blanc par la portière. En même temps, il se mit à beugler :

M. le vicomte, pourquoi avoir tiré sur le Scénic ?
Parce que "Scénic" tout ce qui bouge !

- Dis-donc, Vicomte de mes deux, j'ai une bouteille de Cognac quatre étoiles dans le coffre ! Si on discutait de ça autour d'un verre ? Hein ? Kesse t'en pense ?
- C'est quelle marque, ce Cognac ?
- Du Martel ! Et pas un truc pour garçon coiffeur, c'est du raide !
- Bon, amène toi avec la boutanche bien en évidence. Et les autres ne bougent pas !

Robert sortit lentement de la voiture, alla récupérer la bouteille de Cognac puis avança vers la bâtisse en la tenant à bout de bras. André trouva la force de dire :

- Demande lui si il est assuré...

Cédric resta accroupi derrière la voiture en pensant que cette activation démarrait très fort. Pour sa part, Jacques ne voyait aucune raison objective de lever le nez de la poussière.

A suivre...

•1008• Prix TTC valables pour le mois de parution - Port en sus

Emetteur-Récepteur FT-950

pour le DX exigeant HF/50 MHz 100w

YAESU

Le choix des DX-eur's les plus exigeants !

Garantie 2 ans sur matériels Yaesu radioamateur

- **Récepteur à triple conversion super-heterodyne, 1ère fréquence intermédiaire à 69.450 MHz.**
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Dimensions :
365mm x 115mm x 315mm
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Chînons sur la toile, Les liens intéressants

Site internet d'un club suisse : HB9AA
http://hb9aa.radioamateur.ch   (QSP de Enio - HB9RHI)

Les liens de Philippe Gondard (radio-club Perche)

Construisez vos antennes en allant sur http://www.ac6v.com/antprojects.htm
Il y a de quoi s'occuper tout l'été.

Et si vous avez besoin de faire quelques calculs, vous trouverez une aide fort précieuse sur http://www.calculatoredge.com/french.htm
Par exemple, vous pouvez calculer votre poids sur les différentes planètes. Très utile pour votre prochain voyage dans l'espace lors de ces vacances estivales.

Les personnes qui s'intéressent aux balises aéronautiques peuvent se rendre sur la page http://ndbdxingblog.blogspirit.com/

Des milliers de QSLs radio amateurs sont consultables sur http://lesnouvellesdx.fr/galerieqsl.php

Voici un site qui vous présente l'habitat d'un repère d'activistes de la radio !
http://greez.monographie.free.fr/

C'est un rappel pour ceux qui n'auraient toujours pas placé ce site dans les favoris :
http://www.dxing.com/index.html
C'est essentiel et indispensable.

Encore un site fort utile à placer dans les favoris de chaque amateur de radios :
http://www.primetimeshortwave.com/

Un site français sur les pirates :
http://www.easyshopdiscountzone.com/radio/pirate/

Voici un site internet sur la CB (un vrai retour dans le temps, j'ai bien apprécié...)
http://www.citizen-band.org/topic/index.html
Salut et @ bientôt !
Fred F5OZK

bonjour à tous !
J'aimerais bien vous faire savoir que je suis le modérateur d'un groupe yahoo "r_amateurs_ma" pour les activités radioamateurs au maroc mais aussi des activités des contesteurs etrangers au maroc ou autres... vous trouverez le lien http://groups.yahoo.com/group/r_amateurs_ma/
aussi il y le site de l'arram www.arram.org
aussi il ya le site de cn8vo www.cn8vo.com mon ami
cn8ww 73's

Petites annonces

Je recherche les cassettes en langue anglaise qui accompagnaient l'excellent ouvrage radio amateur " The Radio Amateur's Conversation Guide" de OH1BR et OH2BAD. Cet ouvrage est épuisé et j'ai égaré mes cassettes lors d'un déménagement !! Dédommagement et transport à ma charge totale bien sur. Cordialement F5NLP. f5nlp@free.fr

Je recherche le datasheet ou des infos sur un VCO 100 Mhz marque SOREP EWOS 0604 avec un N° : 0174. Cela pour réparer mon géné 10ghz Tension, niveau de sortie brochage etc. Si quelqu'un avait cela, je n'ai rien trouvé sur le Net. Merci d'avance ! f4avl-19@orange.fr

Bonjour à tous, je recherche un ou deux CV 2X300pf, espacement des lames 0,75 -1mm, mais avec les 2 rotors isolés l'un de l'autre ou si impossible de trouver quatre cv de 300pf une cage même espacement inter-lames, ceci à prix OM. Merçi de m'avoir lu et 73's qro ! ON5PH@skynet.be

Bonjour. A vendre amplis en très bon état, rien à redire : IC 2 KL et son alimentation : 1 400 €. AL 811 H tout neuf, tubes jamais servis : 850 €. Matériel dispo sur le dpt 82. 73's ! stefagen@yahoo.fr

Je vends, pour un ami, un Yaesu FT-920 équipé des options suivantes : platine FM FM-1, filtre CW : YF-116C, filtre Inrad 2.3KHz SSB, quelques caractéristiques : * 160 à 6 mètres 100 Watts * PA à MOSFET * Dual Watch * 127 Mémoires * Filtre Notch * IF Impulse Noise Blank * All-Mode D.S.P. * Accord automatique d'Antenne Intégré * Affichage 2 VFOs * Enregistreur de voix numérique * Contrôles indépendants des 2 VFOs * IF ShiftL. L'ensemble avec boite et notice d'origine, en excellent état pour 800 Euros. 73's de F4AVI Fabrice. fabrice@f4avi.homelinux.net

Vente IC.756 PRO III - Cause double emploi , vends à prix Argus un IC.756 PRO III. Etat neuf.
(achat Août 2008) 73 ! f6bpo@uft.net

HW 101 HEATHKIT. Bonjour, je vends 3 courroies pour HW 101 HEATHKIT ainsi que quelques lampes : 6CB612AT7 ECC81 12AU7A ECC826 CB6A6 BN8ECL 866AU6 EF94. Faire offre, Merci 73's !
Patrick - f0fjf@orange.fr

Vds alimentation Daiwa PS-600, E/R VHF KENWOOD TM-231E, DSP BHI modele NEDSP1061-KBD pour FT-817, R-2000, R5000, IC R71, IC R72, IC R8500, ...etc, tout TX ou RX qui n'est pas equipe de DSP. Le tout etat neuf. Tel : 05.61.27.75.66 F6DDH - j-cl.rouge@orange.fr

Au sujet du MÉLODIUM 75A. Bonjour à toutes et à tous,Je cherche le cordon de liaison d'origine du microphone MÉLODIUM 75A au qsj actuel de l'argus (pas de marchand de tapis...). Merci d'avance. Érick f4ddn@wanadoo.fr

Bonjour, à vendre un ft 817 au prix argus + un micro dtmf. Me contacter pour plus d'infos. Freddy - f4erg@live.fr

Vends ou echange FT 990. Bonsoir à tous, je vends mon ft 990 suite à un changement d'objectif. En parfait état. Faire offre. Echange possible contre un FT 897. Merci de m'avoir lu. pellegrini.xavier@free.fr

Achète "A l'ecoute du monde". Recherche des années complètes de 1990 a 2007 de la défunte revue du club amitié radio "A l'ecoute du monde". Merci ! f14368@wanadoo.fr

Mizuho MX-14S. Je recherche un Mizuho MX-14S ou MX-7, si vous avez ce type de transceiver à vendre, je suis acheteur, Voir modéle sur le site : http://www.mizuhoradio.com/mx14s.html Faire offre via émail. Merci 73 ! f8bbl@dx-cw.net

Vds 1 kenwood TH-F7EVds, 1 vhf/uhf, TH-F7E, VHF/UHF, trés peu servi en émission, avec le micro, la prise allume cigare, le chargeur 220/12 volt, dans son carton d'origine pour 260 €. Contacter : Jacques Lebrasseur Mail : jacleb27@aliceadsl.fr

HAM-MAG

Le 1er E-magazine hebdo pour radioamateurs, amateurs radio, SWL...

Le reportage de F5LGB
sur le salon I'NOV 2008

NUMERO 7
GRATUIT

10 NOVEMBRE 2008
htpp://ham.france.free.fr

EDITORIAL

Dans ce numéro, vous trouverez la suite logique de la construction du PTO de la semaine dernière. F6BCU propose la réalisation du BINGO 40m CW/SSB, étape par étape, expliqué de façon claire et accessible pour la plupart des bidouilleurs.
Concernant les petites annonces, elles "n'encomberont" plus le magazine, il est en effet préférable de les laisser sur le site et à tout à chacun de les consulter librement.
Le poste rubrique SWL est toujours vacant, et il y a aussi de la place pour nos amis de la bande parallèle s'ils souhaitent mettre des informations les concernant. Plus de gens participeront, plus nous pourrons offrir de la diversité et de la nouveauté.
Je souhaite mettre en place une rubrique formation. Il ne faut pas oublier que certains n'ont pas la possibilité de se rendre toutes les semaines dans les radio-clubs et que d'autres n'ont pas de cours disponibles près de chez eux. Chaque semaine un cours, la semaine suivante, des questions sur le cours précédent et un nouveau cours, toujours dans un esprit de continuité et d'évolution logique. Consacrer une page ou deux par semaine sur ce sujet ne semble pas poser de réelle difficulté, de plus, il ne faut pas négliger tous ces passionnés de radio qui pourraient rejoindre la grande famille des radioamateurs. Loin des préjugés, loins des jugements hâtifs, que l'on soit bleu, blanc, grand, petit, jeune, à la retraite, etc, nous avons tous le même fil conducteur, LA RADIO.
Je me souviens à la fin des années 80 quand j'ai poussé pour la première fois les portes d'un radio-club, innocent, candide et venant de la C.B., j'ai été accueilli à bras ouverts. J'ai commencé à participer (saisie informatique) aux contests. Puis, un soir après la coupe du REF CW, un O.M. m'a donné mon premier cours de morse. Je pris ma décision à ce moment là ! Nous étions en Février, je passais et réussissais la licence (à l'époque la D) au mois de Mai suivant. Sans aucune connaissance en électronique, en technique et en morse, grâce à la patience des O.M. qui m'expliquaient et me réexpliquaient sans cesse, j'obtins le papier tant désiré. Il faut dire que j'ai la chance d'avoir une oreille musicale, ça aide pour la CW car ce ne sont que des phrases musicales à transformer en lettres et en mots. Mais il faut souligner l'importance de l'esprit O.M. dont le seul but est de partager et transmettre un savoir et des acquis. Egalement la motivation, réel moteur de la réussite.
Le certificat d'opérateur ne doit être une finalité, mais le départ d'une longue route truffées de joies, de satisfactions, de déceptions et d'envie de communiquer. Nous avons la chance de pratiquer un hobby qui nous ouvre les portes d'expérimentations diverses et enrichissantes. Une activité qui touche des domaines variés. De la géographie à l'espace, de la conception aux essais "en live", des rassemblements conviviaux, à l'individualisme. Alors, Profitons-en, la vie est si courte !

Bonne lecture et cordiales 73 !
Vincent F5SLD

P.S. : Ormis les Emails et la H.F., vous pouvez me contacter sur Windows live Messenger (le soir) sur mon Email personnel : f5sld@free.fr

HAM MAG

N°7

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Remerciements à **F4CRM, F4FUC, F5IRO, F6BCU, F6HQY, PY2OHH, ON3MAJ, ON4LFO, HB9HLM, HB3YMM, Jérôme**...

Merci aux différents annonceurs qui nous accordent leur confiance et à tous les O.M. qui nous ont envoyé des messages de soutien et des dons. Pardon à ceux que j'aurais oubliés...

Ce magazine ne demande qu'à s'améliorer et s'étoffer. N'hésitez pas à nous envoyer vos infos, vos avis et vos suggestions.
Mail : ham.france@free.fr

Nous incitons nos lecteurs à ne pas copier et envoyer cette revue à leurs amis mais plutôt les inviter à s'abonner. C'est gratuit et sans publicité intempestive.

N'oubliez pas que ce magazine a été réalisé par des bénévoles au détriment de leurs heures de loisirs et de trafic.

Festival international de l'innovation à Mérignac (33)
10 - 13 Octobre 2008
Des radioamateurs à l'honneur ! Par F5LGB

Pari gagné !
Voila en résumé ce que l'on pourrait dire sur le résultat promotionnel durant ce salon grâce dévouement d'une poignée d'O.M.

Résumé de ces jours d'activité sur le salon international de l'innovation de Mérignac.

L'installation du stand a débuté le jeudi 9 octobre à 16 heures 15 et dès le lendemain, Vendredi 10 octobre, nous sommes prêts à accueillir les premiers visiteurs.

Après des déboires informatiques sérieux et quelques problèmes d'intendance ces deux premiers jours de présence radioamateur rencontrent un franc succès au regard de l'impact sur le public de qualité qui fréquente ce festival.

Les retours sont franchement chaleureux et sympathiques.

Comme le stand radioamateur est situé à proximité de la sortie fumeurs, il profite du va et vient engendré.

C'est un peu le coin détente et causerie de ce magnifique complexe qui nous accueille.

On y rencontre aussi bien la dame porteuse du projet du bonnet anti-poux, que des bricoleurs de génie, des techniciens, informaticiens, ingénieurs et aussi et surtout un nombre important de visiteurs surpris par nos activités.

Notre stand est divisé en quatre zones distinctes :

- La première constitue la station radio à proprement parler.

Elle comprend un émetteur Icom 756 PRO III, un Icom IC 706 MK2G, un ensemble relais VHF / UHF qui devrait, peut-être un jour, devenir le premier relais urbain de la C.U.B. (Si nous trouvons un site pour l'y installer, les négociations avec un bailleur social connu venant d'achopper.)

Les aériens sont constitués par un long fil en "L" de 28 mètres relié à une boite d'accord de type long fil (CG2000) et d'une antenne VHF / UHF sur embase magnétique posée à près de 20 mètres du sol sur le toit de la salle de spectacle du pin galant. Deux ordinateurs sont dédiés l'un au pilotage et au "logging" et l'autre au décodage des modes numériques.

- La deuxième, dédiée à la réception des ondes courtes en général à travers une exposition de postes modernes de la plus belle facture concernant la collection des postes de la marque Roberts et des postes de réception plus simples de la marque Eton.

Tous ces appareils permettent la réception des stations de radiodiffusion en AM et en FM du monde entier y compris, pour l'un des modèles, de la BLU permettant ainsi l'écoute des radioamateurs.

Les tarifs s'échelonnent d'à peine 40 Euros à moins de 300 Euros.

La marque Roberts propose des pièces "revival" d'une beauté rare. Il s'agit de la reconstruction à l'identique de poste des années 50 / 60 à l'aide de pièces d'origine (pour les pièces mobiles et les boutons du cadran) mais dotés d'une électronique moderne.

- La troisième zone représente celle qui colle le plus à l'esprit du salon. Nous y présentons une nouveauté. Il s'agit d'une interface informatique permettant la réception et le traitement des ondes courtes sur un ordinateur et ce dans tous les modes disponibles. Cette interface, reliée directement à une antenne permet la réception directe d'une portion importante d'une bande de fréquences puis, le traitement des signaux de façon logicielle en réalisant un échantillonnage. La qualité de réception, la sensibilité et la sélectivité sont époustouflants et l'interface graphique du plus bel effet.

Le principe de l'antenne mono bandes / multi fréquences, invention majeure depuis des années en matière d'antenne d'émission / réception, est à nouveau présenté. On ne s'en lasse pas. Je regrette seulement que les deux derniers évènements mondiaux en matière de radio amateurisme soient à l'initiative de nos amis américains !

La quatrième zone est celle de la promotion et du morse.

Trois écrans diffusent en boucle des films et des diaporamas de promotion.

De la documentation est mise à disposition du public.

Des manipulateurs morse de collection, modernes ou surprenants tel le manip "bathroom" (baignoire) équipant les avions de la Royale Air Force sont présentés.

L'ensemble du stand est abondamment décoré de diplômes, coupes, QSL, affiches de promotion, articles de presse...

Eric, Simon, organisateur du salon nous propose de tenter un challenge : il s'agit de contacter en France, ou de par le monde, des personnes connaissant ou participant à de telles manifestations.
Sitôt dit, sitôt fait.
En moins d'une heure un tiers des départements Français est contacté sur 7 mhz.
L'un des opérateurs nous annonce que dès le week-end prochain à Jonquières dans le Vaucluse, se déroulera un salon de l'innovation pour porter les projets locaux.
Les quatre coins de France sont contactés, preuve s'il en était encore besoin, de l'utilité et de l'efficacité des liaisons radioamateurs en cas de catastrophe naturelle par exemple.
Un jeune radioamateur Espagnol nous fait une visite de politesse. Il est élève ingénieur à l'INSERB (Raoul EA2CTK).
Nous l'accueillons avec plaisir et lui proposons d'opérer la station radio.
Il accepte immédiatement.

F5NSL en démo

Il s'avère que ce jeune homme d'une vingtaine d'années à peine est déjà un radiotélégraphiste confirmé.
Sa démonstration de trafic en morse attire un public comme jamais nous ne l'aurions imaginé.
Les contacts se succèdent sur 10 mhz : Belgique, Suisse, Suède, Autriche, République Tchèque, Allemagne, Pologne, Hongrie, Russie et, cerise sur le gâteau, la Malaisie !
Un rassemblement spontané se forme, les demandes de renseignements fusent, du morse? Comment ça marche? Ça existe toujours?
L'étonnement se lit sur les visages du public.
Nous dirigeons les plus intéressés vers le coin initiation au code morse et au maniement de la pioche.

F5GGL

Des diplômes sanctionnant cette initiation sont remis.
L'un des exposants, technicien de formation, est ravi. Son intérêt est vif, il s'informe sur les formalités à remplir pour devenir radioamateur.
Les rencontres sont aussi surprenantes que riches en émotions.
Ainsi, le Président de l'Association des Inventeurs de Bosnie Herzégovine évoque avec nous les souvenirs douloureux de la guerre passée au cours de laquelle l'action des radioamateurs de son pays, qui ont oeuvré à rétablir les communications de secours et d'assistance, a suscité bien de la sympathie pour notre hobby.
Nous lui demandons s'il consent à rédiger un texte narrant cet épisode poignant.
Il nous propose de co-rédiger ce témoignage en coopération avec les radioamateurs Bosniaques.
Nous lui remettons les documents lui permettant de nous contacter ainsi que deux revues du REF-UNION, notre association nationale.
Gageons que cette rencontre soit le point de départ d'une amitié entre nos deux associations.

Une autre fierté est celle procurée par le stand Transtech qui expose dans une vitrine les réalisations des élèves de deux écoles Mérignacaises faisant suite au projet pédagogique mis en place et présenté par Michel F5EOT et Pascal F5LGB.

Troisième jour sur le Salon INOV 2008.

"On nous entend sur la tour Eiffel".

Ce dimanche 12 octobre a été une journée mémorable.

De nombreux copains sont venus nous rendre visite et l'intérêt manifesté à notre hobby a une fois de plus été très vif. Plusieurs enfants qui étaient venus l'an passé ou qui ont participé à la journée d'hier sont revenus aujourd'hui. C'est bien une preuve que l'on peut encore générer des passions. Plusieurs anciens de professions liées à l'électronique ou à des domaines techniques nous avouent que, plus jeunes, ils auraient bien passé la licence mais que l'obligation d'apprendre le morse les en a dissuadés.

Aujourd'hui le morse n'est plus obligatoire, nous leur faisons savoir mais, avec regrets, certains se considèrent comme trop âgés maintenant.

Côté trafic, trop occupé à promouvoir, expliquer et convaincre nous ne faisons que peu de contacts.

EA2CTK revient à exploiter la station sur 10 et 14 Mhz.

En décamétrique, quelques pays seulement sont ajoutés au palmarès parmi lesquels la Norvège, L'île de Malte, le Koweït et la côte Ouest des États Unis.

En VHF, sur le relais de Villeneuve sur lot (47) nous établissons une longue liaison avec un radioamateur en portable dans les montagnes ariégeoises.

Un beau tour du monde en quelque sorte mais l'évènement le plus marquant de cette journée se déroule vers 18 heures 50.

Le portable de EA8CTK sonne, il répond et nous l'entendons s'écrier ébahi: "on nous entend sur la tour Eiffel".

En effet, il s'agit de notre ami Thierry F4EOB en visite à Paris qui, équipé d'un petit scanner à piles, écoute nos signaux sur 10 mhz.

Le haut parleur du téléphone portable est activé.

Surprise totale!!

Nos signaux sont très forts, intelligibles mais la réception est décalée de quelques secondes à tel point que manipuler en morse en s'écoutant est impossible. N'y cherchez pas un effet doppler quelconque ou la manifestation d'un principe électronique rarissime !

Il ne s'agit en fait que d'une réalité toute simple: les communications sur un portable (GSM) sont numérisées. Le signal est codé à l'émission puis décodé à la réception. Cette simple opération qui nécessite une "bufférisation" engendre un retard à la réception de nos signaux.

Nous pourrions en tirer la conclusion que nos communications sont encore plus rapides et efficaces que les moyens modernes, oui nous pourrions nous gargariser un petit coup, mais alors juste pour rire.

Un autre moment fort fut la visite d'André, F9NO et de son YL (épouse).
Il a 86 ans, il est venu hier puis il est revenu aujourd'hui rien que pour le plaisir de partager ce moment avec nous et pour remettre à Pascal une compilation de vidéos, reportages et d'articles témoignant du passé des radioamateurs au niveau mondial, national, mais aussi des témoignages de la vie locale comme un reportage sur la splendide manifestation au début des années 1990, dans la galerie marchande de Mérignac Soleil.
Nous convenons de dupliquer ces documents afin de les reverser à l'association nationale avec copie à la FRAG.

Quand on sait combien les efforts lui sont pénibles il s'agit là d'un exploit.
C'est un clin d'oeil sans doute à tous les jeunes qui se sont trouvé des excuses pour ne pas se déplacer car, malgré son âge, André a su garder le sens de l'humour et de l'à propos.

Ce fut un immense plaisir et un grand moment d'émotion.

Lundi se sera le dernier jour, la journée, avec la visite des scolaires risque d'être éprouvante alors n'hésitez pas à venir renforcer l'équipe de promotion sur le stand ou leur rendre visite pour les encourager pouvait-on clamer.

Quatrième et dernier jour sur le Salon INOV 2008.

Le lundi est le jour de la visite des élèves des écoles.
Comme l’an passé le stand d’initiation au morse a rencontré un vif succès.
Une trentaine de « diplômes Morse » on été décernés.
A un moment l’affluence était telle qu’il a fallu se répartir les tâches.
L’un de nous initiait et soumettait le candidat à l’épreuve de l’émission de ses noms et prénoms au buzzer, un autre rédigeait les diplômes et les décernait solennellement puis, l’opérateur de la station faisait une démonstration pratique en contactant réellement des stations étrangères dans ce mode de communication.
Un autre moment fort partagé avec les écoliers fut celui pendant lequel nous avons établi un contact avec une station Turque opérée par un radioamateur Français. Deux des élèves présents, d’origine Turque, ne cachèrent ni leur étonnement ni leur joie.
Puis, comme toutes les bonnes choses ont une fin, il fallut remballer l’ensemble du matériel, replier les antennes et charger voitures et remorques…
Les chaleureuses poignées de mains échangées valaient plus que des remerciements ou des félicitations, elles traduisaient simplement la joie que nous avions eu à promouvoir notre passion auprès d’un public nombreux et de qualité.

73's !
Pascal FASOLA
F5LGB

CN89NY QRV du 21.12.08 au 31.01.09
et conférence à l'ARRAM le 27 décembre 2008 à 15h00
http://cn2dx.hb9eme.ch/cn2dx-blog/?p=115

Cette fois c'est officiel, lors de mon séjour au Maroc du 21 décembre 2008 au 3 janvier 2009 j'opérerai le call CN89NY (QSL via EA7FTR) qui sera attribué spécialement pour les fêtes de fin d'année, (8 pour 2008 et 9 pour 2009, NY pour New Year). Nous serons QRV depuis le Beach House avec CN8PA et CN2CV alias HB9CVC, nous devrions opérer 2 stations en même temps : IC7000 et TS680 avec PA AL811hcxe, antenne windom 160 à 10m avec extension 30 et 15m dirigée Est-Ouest puis antenne G5RV 40 au 10m dirigée Nord-Sud.
D'autres OMs CN opéreront le call depuis différents endroits du Maroc, la liste est encore à définir, CN8PA s'occupera du planning. Le call sera activé jusqu'au 31 janvier 2009.

Le 26 décembre CN8PA, CN2CV, Nourdine et moi-même irons opérer à l'ARRAM sur les différentes bandes avec les beams jusqu'à l'après-midi du 27 décembre, puis le 27 décembre à 15H00 CN2CV et moi-même donnerons une conférence, de mon côté je referai le même type de conférence que le 25 juillet dernier, elle sera basée sur le thème des contests en VHF (équipements multisystèmes, technique de trafic, propagation, etc…) et CN2CV fera une petite conférence sur les balises 1296MHz, 2320MHz et 10GHz HB9EME (principe de fonctionnement, technologie utilisée,etc…) Nous espérons voir nombreux les OMs CN8 afin d'échanger différentes idées et surtout passer un excellent moment entre amis.

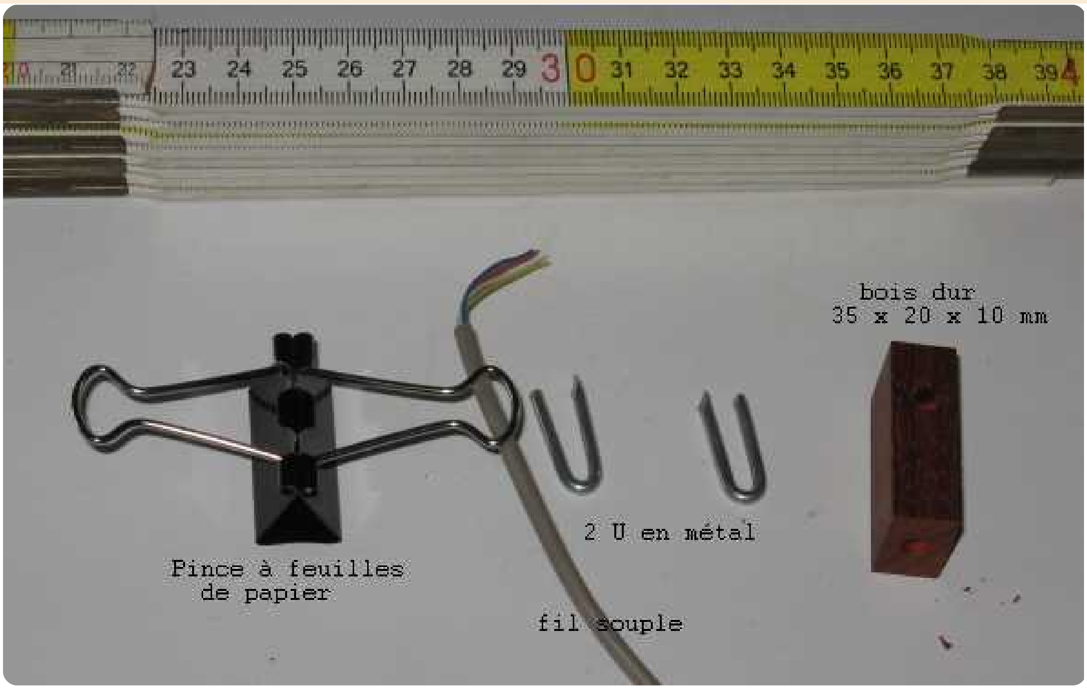
A bientôt, inchalah au Maroc. 73 de André HB9HLM CN2DX
Infos sur le site : http://cn2dx.hb9eme.ch

Info : pylones-dekerf@skynet.be
1966 - 2008
42 Ans
PYLONES DE KERF
Tél: Français - F - (00) 32 71 31 64 06
Tél: Anglais - GB - ( ) 32 / 37 74 14 03
Tél: Allemand - D - ( ) 32 / 37 74 14 03
Tél: Néerlandais - NL - ( ) 32 / 37 74 14 03

UN KEYER POUR MOINS D'UN EURO POUR VOTRE FT-817

Par ON4LFO

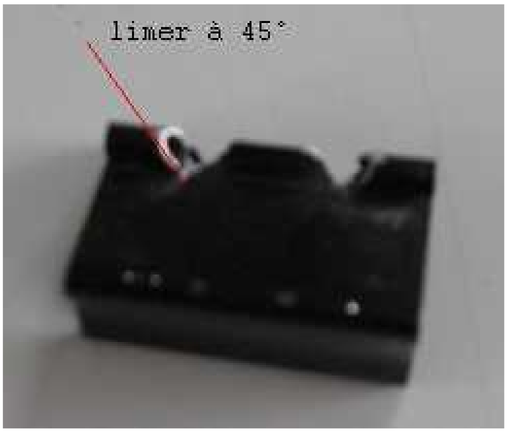
Matériel nécessaire :
- une « pince » pour feuilles de papier
- un morceau de bois : 35 x 20 x 10mm
- 2 U métalliques
- un peu de toile isolante
- 2 lamelles de cuivre 30 x 0.5 mm, épaisseur 0,1 mm
- petite équerre métallique
- fil souple, 3 conducteur
- fiche jack stéréo 3,5 mm



1ère étape :
limer les attaches de manière à ce que les 2 leviers se repoussent.

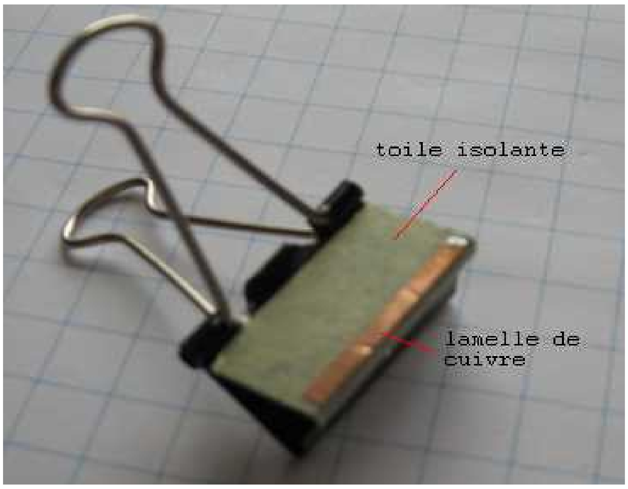
Avant, les leviers ont tendance à s'attirer

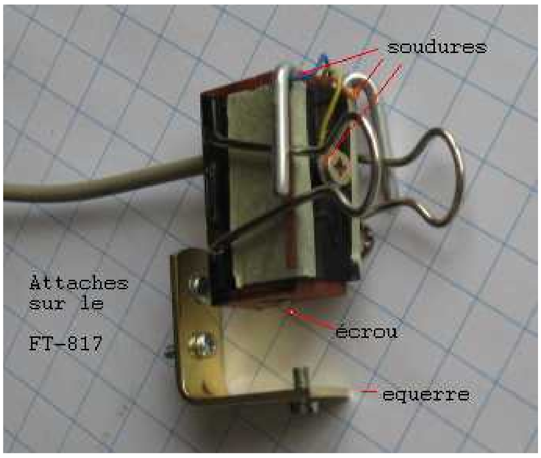
Après, ils doivent avoir tendance à se repousser



2ème étape
Couvrir les deux côtés de la pince avec la toile isolante et y coller de chaque côté également une fine lamelle de cuivre. (un peu de "super glue" fera l'affaire)

3ème étape
Forer de part en part le morceau de bois au diamètre de votre fil souple. Y passer le fil et dénuder les 3 conducteurs.
Souder un brin à chacune des deux lamelles de Cu, et le troisième brin au métal de la pince.





4ème étape
Glisser le morceau de bois à l'intérieur des lamelles.
Placer les 2 U de manière à ce que les 2 leviers restent écartés des lamelles de Cu d'environ 1 à 2 mm.
Solidariser la pince et le morceau de bois au moyen d'une vis à bois.

5ème étape
Préparer une petite équerre, forer 2 trous distants de 10mm pour se visser sur l'attache bandoulière du FT-817. Un troisième trou permettra de fixer le morceau de bois sur l'équerre.

6ème étape
Souder la fiche jack à l'autre bout du fil. (respecter les consignes de la page 5 du manuel du FT-817).
Ne pas oublier de configurer les menus 19, 20, 21 & 22 (voir manuel page 62) en fonction de votre manière de pratiquer la CW.

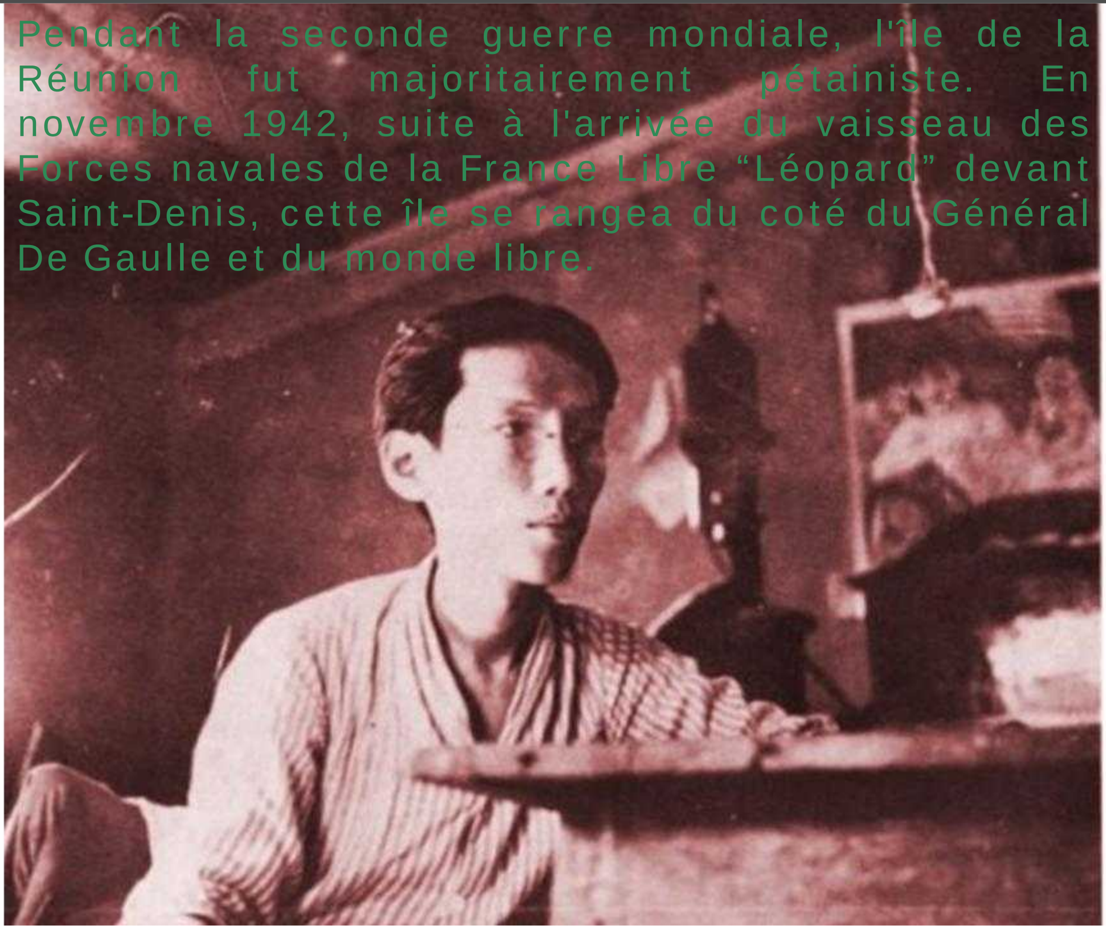
7ème étape
Fixer votre keyer latéralement au FT-817.
A gauche ou à droite selon votre préférence.

Bon trafic en CW. 73's
ON4LFO

HISTOIRE par F4FUC

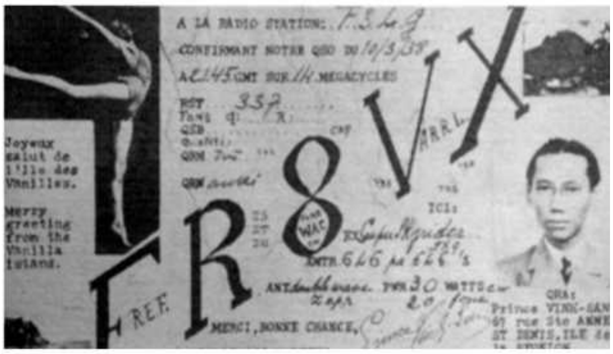
Le Prince Vinh San, 1er radioamateur de l'Ile de la Réunion.

Pendant la seconde guerre mondiale, l'île de la Réunion fut majoritairement pétainiste. En novembre 1942, suite à l'arrivée du vaisseau des Forces navales de la France Libre “Léopard” devant Saint-Denis, cette île se rangea du coté du Général De Gaulle et du monde libre.



Ce ralliement ne fut possible que grâce à la résistance. Les résistants ne furent que quelques uns. Le Prince VINH SAN fût l'un deux. Il a marqué l'histoire de son pays, de l'île de la Réunion et du radioamateurisme.

Le Prince Vinh San est né le 3 août 1899 à Hué au Viêt-Nam, descendant direct du prestigieux empereur Gia Long. Il n'a que 8 ans lorsqu'il accède au pouvoir. Son père, destitué par les autorités coloniales françaises est contraint d'abdiquer en sa faveur. Intronisé le 5 septembre 1907 sous le nom dynastique de Duy Tan, le prince VINH SAN a été un chef aimé de tout son peuple. Son règne (1907-1916), a été marqué par de nombreux événements relatifs à l'émancipation de son pays l'Annam, notamment la révolte de 1916 contre le Protectorat Français.



FR8VX

REF

ARRL

WAC

Joyeux salut de l'Ile des Vanilles.

Merry greeting from the Vanilla Islands.

A LA RADIO STATION: F3LG
CONFIRMANT NOTRE QSO DU 10/3/38
A 2145 GMT SUR 14 MEGACYCLES
RST 337
ICI:
ANT. PWR 30 WATTS
MERCI, BONNE CHANCE,

QRA:
Prince VINH-SAN
41 rue Ste ANNE
ST DENIS, ILE de

Agé de 16 ans et à la tête de cette rébellion, le jeune Empereur a été détrôné, arrêté et déporté à l'île de la Réunion. C'est le début d'un exil forcé pour le Prince. Une nouvelle vie commence. Cet homme épris de liberté, s'investira totalement comme citoyen sur sa terre d'accueil.
Sur cette île de l'océan Indien, l'Empereur déchu a mené une existence discrète loin de sa terre natale. Passionné de violon, de poésie, de sport et de radioélectricité, il tient un magasin de réparation de poste TSF à St Denis. Le prince Vinh San est devenu le premier radioamateur de l'Île avec l'indicatif FR8VX. Cette passion pour la radio a contribué à son engagement dans les forces de la France libre. Il fut le premier à entendre l'appel du général de Gaulle le 18 juin 1940. Grâce à ses écoutes clandestines, il a retransmis dans l'île les informations en provenance de l'extérieur et a permis de communiquer avec les alliés. Malgré ses 24 années d'exil, cet homme antifasciste s'est rallié au Général De Gaulle dès juin 1940.

Ses actions de résistant lui ont valu d'être incarcéré à Saint-Denis. Il fut libéré un mois plus tard. Son matériel radio fut confisqué mais il parvint à reconstruire un poste de fortune. Dès le ralliement de la Réunion à la France Libre en novembre 1942, le quartier-maître radio, Vinh San s'embarqua sur le “Léopard” comme radiotélégraphiste.

Il a continué le combat jusqu'en Allemagne et de nombreuses médailles militaires lui ont été décernées à l'issue de la 2ème guerre mondiale. Le 26 décembre 1945, au cœur de la forêt africaine, en Oubangui-Chari (Tchad), disparaissait dans un tragique et mystérieux accident d'avion, le Prince Nguyen Phuoc Vinh San, dernier Empereur légitime, sous le nom de Duy Tan qui régna sur l'Annam de 1907 à 1916. Il avait 45 ans.

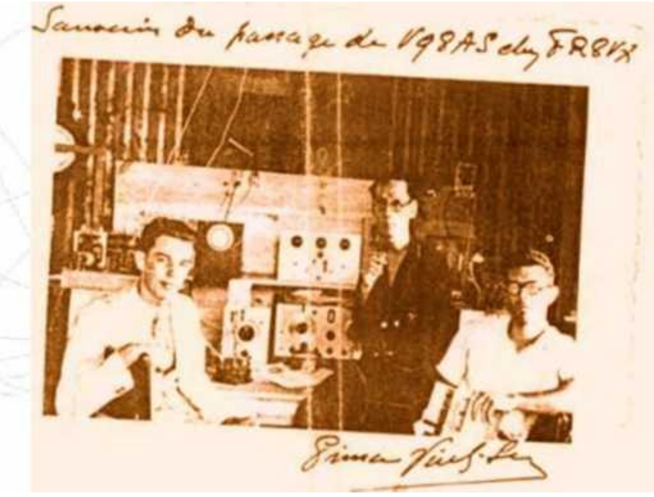
En avril 1987, grâce à la volonté de ses enfants et à l'aide importante du Président Jacques Chirac, les restes mortels de l'empereur Duy Tan font l'objet d'une exhumation en Afrique et sont transférés à Hué au Viêt-Nam. Une importante cérémonie marque l'événement et Duy Tan repose depuis auprès de ses ancêtres. Détrôné en 1916, il n'a jamais abdiqué, à ce titre, il demeure le dernier Empereur d'Annam.

Je vous invite à consulter le site qui est dédié au Prince VINH SAN. Vous effectuerez ainsi un voyage dans le passé et vous découvrirez le destin extraordinaire de ce Prince, 1er radioamateur de l'Ile de la Réunion.

Je tiens à remercier tout particulièrement Monsieur Claude VINH SAN, fils du Prince VINH SAN, pour m'avoir autorisé à publier cet article.

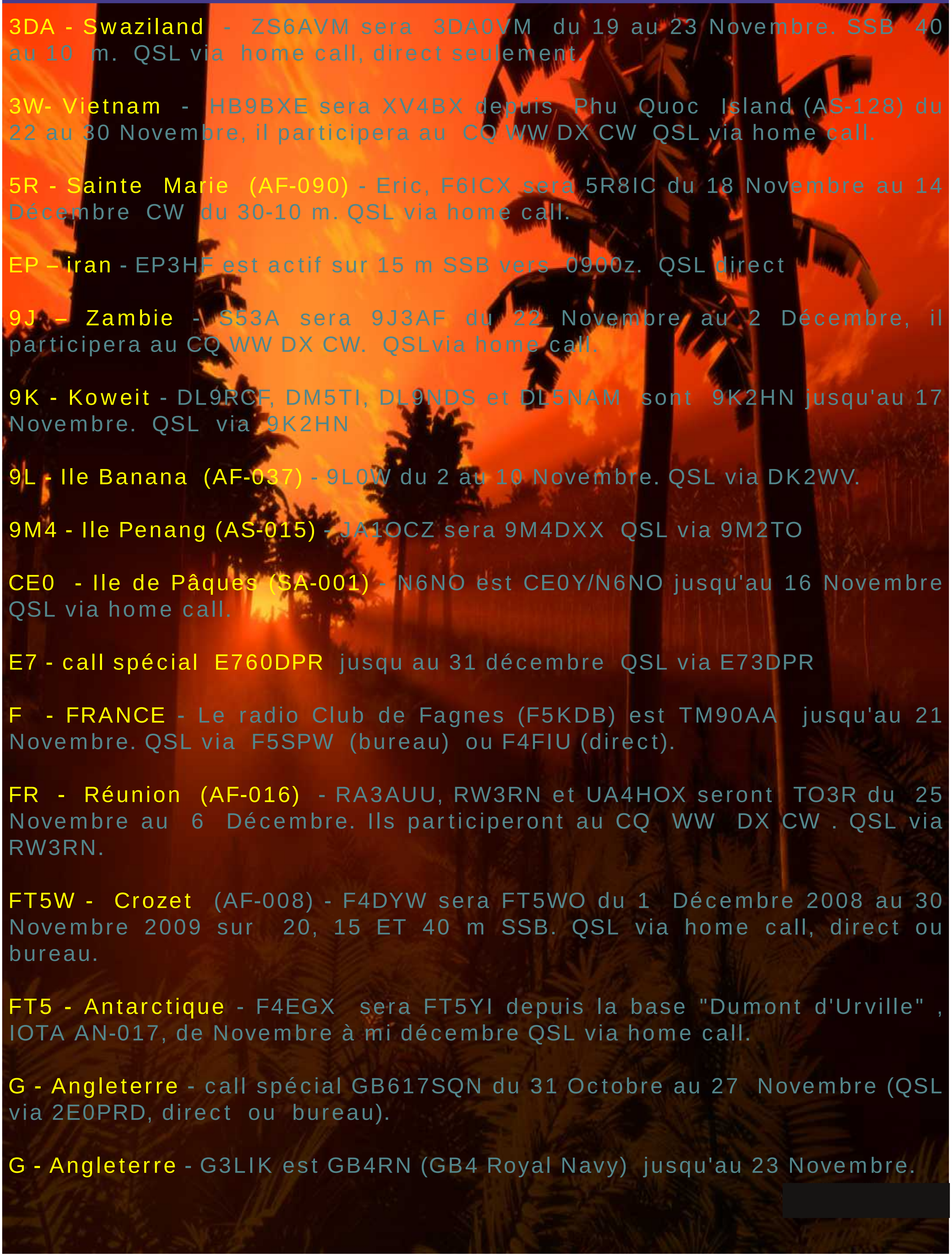
http://vinhsan.free.fr/acte%201.htm

Cordiales 73
F4FUC


Souvenir du passage de VQ8AS chez FR8VX

Les infos DX

F5IRO



3DA - Swaziland - ZS6AVM sera 3DA0VM du 19 au 23 Novembre. SSB 40 au 10 m. QSL via home call, direct seulement.

3W- Vietnam - HB9BXE sera XV4BX depuis Phu Quoc Island (AS-128) du 22 au 30 Novembre, il participera au CQ WW DX CW QSL via home call.

5R - Sainte Marie (AF-090) - Eric, F6ICX sera 5R8IC du 18 Novembre au 14 Décembre CW du 30-10 m. QSL via home call.

EP – iran - EP3HF est actif sur 15 m SSB vers 0900z. QSL direct

9J – Zambie - S53A sera 9J3AF du 22 Novembre au 2 Décembre, il participera au CQ WW DX CW. QSLvia home call.

9K - Koweit - DL9RCF, DM5TI, DL9NDS et DL5NAM sont 9K2HN jusqu'au 17 Novembre. QSL via 9K2HN

9L - Ile Banana (AF-037) - 9L0W du 2 au 10 Novembre. QSL via DK2WV.

9M4 - Ile Penang (AS-015) - JA1OCZ sera 9M4DXX QSL via 9M2TO

CE0 - Ile de Pâques (SA-001) - N6NO est CE0Y/N6NO jusqu'au 16 Novembre QSL via home call.

E7 - call spécial E760DPR jusqu au 31 décembre QSL via E73DPR

F - FRANCE - Le radio Club de Fagnes (F5KDB) est TM90AA jusqu'au 21 Novembre. QSL via F5SPW (bureau) ou F4FIU (direct).

FR - Réunion (AF-016) - RA3AUU, RW3RN et UA4HOX seront TO3R du 25 Novembre au 6 Décembre. Ils participeront au CQ WW DX CW . QSL via RW3RN.

FT5W - Crozet (AF-008) - F4DYW sera FT5WO du 1 Décembre 2008 au 30 Novembre 2009 sur 20, 15 ET 40 m SSB. QSL via home call, direct ou bureau.

FT5 - Antarctique - F4EGX sera FT5YI depuis la base "Dumont d'Urville" , IOTA AN-017, de Novembre à mi décembre QSL via home call.

G - Angleterre - call spécial GB617SQN du 31 Octobre au 27 Novembre (QSL via 2E0PRD, direct ou bureau).

G - Angleterre - G3LIK est GB4RN (GB4 Royal Navy) jusqu'au 23 Novembre.

I - Italie - call spécial II1ADV du 15 au 19 Novembre. QSL via IW1RLR, direct ou bureau.

I - Italie - IW9GUR, IW9HLM, IW9HQP IT9RKR IT9GCG seront ID9/home call de l'île Salina (EU-017, IIA ME-015) du 21 au 23 Novembre . QSL via home calls, en direct.

J3 - Grenade (NA-024) - DL7CM DM2AYO sont J3/DL7CM et J3/DM2AYO jusqu'au 25 Novembre. QSL via home calls.

ON – Belgique - Call spécial ON55INR jusqu au 31 Décembre. QSL via bureau.

S7 - ile Praslin (AF-024) - JA0UH (S79UH) JA0UMV (S79MV) sont aux Seychelles jusqu'au 14 Novembre. QSL via home calls.

SP - Pologne - Indicatifs spéciaux du 3 au 23 Novembre: 3Z1918PR, 3Z2008PR, 3Z90PR, HF1918PR, HF2008PR, HF90PR, SN1918PR, SN2008PR, SN90PR, SO1918PR, SO2008PR, SO90PR, SP1918PR, SP2008PR, SP90PR, SQ1918PR, SQ2008PR et SQ90PR.

TG – Guatemala - TG9AHM es actif en RTTY sur 20 m vers 20h00z.

UA - antarctique - RV1ZC sera R1ANC à la station antarctique de vostok. QSL via RN1ON en direct ou bureau.

V8 - Brunei - G3YBY est V8FKT jusqu'au 21 Novembre. QSL via home call.

VP9 - Bermudes (NA-005) - OH3SR sera OH3SR/VP9 du 25 Novembre au 2 Décembre. Il participera au CQ WW CW. QSL via home call.

VU - Andamans - Jusqu'au 14 Novembre, DL5DSM DJ7JC sont respectivement VU3NLG et VU3NLF de Panjim (Goa). QSL via home calls.

VK0 - Ile Heard - VK2ABP est VK0BP depuis la base Davis jusqu'au 7 mars. QSL via VK2CA.

YL – Lettonie - Call spécial . Les radioamateurs de ce pays sont autorisés à utiliser le préfixe YL90 durant le mois de novembre

ZK2 - NIUE - N1EMC est ZK2DF. 40 m SSB, écoute up, vers 0930z. QSL via home call.

Contests week-end du 15 au 16 novembre

ARRL EME CONTEST – ssb cw digi
JT 50th ANNIVERSARY CONTEST – ssb cw
LZ DX CONTEST – ssb cw
ARRL NOVEMBER SWEEPSTAKES – ssb
COLLEGIATE ARC CHAMPIONSHIP – ssb
RSGB 1.8 MHZ CONTEST – cw
PSK 63 QSO PARTY - digi

IOTA INFO

Par ON3MAJ

Référence & Nom	Référence IOTA
TK-001 LA CORSE	EU-014
TK-002 ILE GRANDE SANGUINAIRES	EU-014
TK-003 ILE DE CAVALLO	EU-164
TK-004 ILE DE PIANA	EU-100
TK-005 ILE DE PINARELLU	EU-014
TK-006 ILE DE FINOCCHIAROLA	EU-164
TK-007 ILE DE LA GIRAGLIA	EU-164
TK-008 ILE DE GARGALU	EU-014
TK-009 ILE DES MOINES	EU-164
TK-010 ILE DE LA PIETRA	EU-014
TK-011 ILE DE LAVEZZI	EU-164
TK-012 ILE DI CALA D'ALGA	EU-104
TK-013 ILE CORMORANS ou OGA	EU-104
TK-014 ILE DE PORRI	EU-104
TK-015 ILE POINTE SETTE NAVE	EU-014
TK-016 ILE DE PIANA (CHIAVARY)	EU-014
TK-017 ILE PUNTA DI L'OGA	EU-014
TK-018 ILE DU TARAVU	EU-014
TK-019 ILOT D'ECCICA	EU-014
TK-020 ILE DE L'ANCURELLA	EU-014
TK-021 ILE DE BRUZZI	EU-164
TK-022 ILES DE LA TONNARA	EU-014
TK-023 ILES DE FAZZIOLU	EU-014
TK-024 ILE SAINT-ANTOINE	EU-014
TK-025 ILE DE PIANA (SPERONO)	EU-164
TK-026 ILE DE RATINO	EU-164
TK-027 ILE DE PORAGGIA	EU-164
TK-028 ILE DE SAN BAINZO	EU-164
TK-029 ILE DE PERDUTO	EU-164
TK-030 ILE DE LA FOLACA	EU-014
TK-031 ILE DI U TORO	EU-164
TK-032 ILE DE MAESTRO MARIA	EU-100
TK-033 ILE DE PIETRICAGGIOSA	EU-100
TK-034 ILE DE LA VACCA	EU-100
TK-035 ILE DE FORANA	EU-100
TK-036 ILE DE FARINA	EU-014
TK-037 ILE SAN CIPRIANU	EU-164
TK-038 ILE DE LA CORNUTA	EU-014
TK-039 ILE DE ROSCANA	EU-014
TK-040 ILE DE CENTURI	EU-014
TK-041 ILES DU CAPO MURSETTA	EU-014
TK-042 ILE PIANA (ILE ROUSSE)	EU-014
TK-043 ILE DE SPANO	EU-014
TK-044 ILE DE SCUGLIETTI	EU-014
TK-045 ILE DE PORI	EU-014
TK-046 ILOT DE GARGANELLU	EU-014
TK-047 ILOT PALAZZU La Corse	EU-014
TK-048 ILOT VARDIOLA	EU-014
TK-049 ILES DE CAPIGLIOLU	EU-014
TK-050 SCOGLIU LONGU	EU-014
TK-051 ILE BAIE DE FIGARI	EU-014
TK-052 ILE CAMARO CANTO	EU-164
TK-053 ILOT ZIGLIONE	EU-014
TK-054 ILE POINTE DE FAUTEA	EU-014

AS-128. Arkady "Ark", UA4CC, a dû annuler son voyage à l'île Phu Quoc au Vietnam. Cependant, Mike, RL3BM, y séjourne jusqu'au 13 novembre.
Call : XV4BM. Activités prévues en CW et SSB sur 80-10 mètres. QSL XV4BM via RL3BM.

NA-133. Les opérateurs George/AA7JV, Tomi/HA7RY, Pedro/HK3JJH et Fero/ HA8MT seront actifs sous 5K0T depuis Bajo Nuevo (IOTA NA-132) et Roncador Bank (IOTA NA-133) du 19 novembre au 2 décembre. Le groupe opérera 2 stations de 160 à 6 mètres. Il participeront aussi au contest CQWW CW les 29 et 30 novembre. Il seront aussi actifs sous HK0/HK3JJH et prévoient d'opérer depuis Roncador Bank du 18 au 21 novembre et depuis Bajo Nuevo du 23 novembre au 2 décembre. Ces 2 récifs font partie de la région de San Andres (HK0). QSL 5K0T via HA7RY. Pour HK0/HK3JJH QSL via HK3JJH. Site Web : http://www.5K0T.com

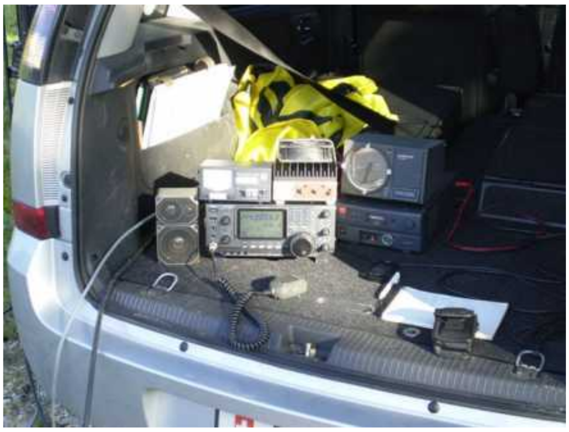
Bajo Nuevo est un petit récif qui appartient à la Colombie et est situé à 170 miles au Sud de la Jamaïque au centre des caraïbes. Plus d'infos sur :
http://en.wikipedia.org/wiki/Bajo_Nuevo_Bank
Roncador Bank est situé à 150 miles au Sud-Ouest de Bajo Nuevo. Plus d'infos sur :
http://www.oceandots.com/atlantic/san-andres/roncador.htm

L'O.M. de la semaine : HB3YMM

J'ai commencé la CB à 13 ans, actuellement j'ai 41 ans, j'ai commencé sur un portable avec une antenne télescopique de la marque TOKAI TC-1607, j'avais 3 canaux le canal 4 le 7 et le 14. Ensuite, j'ai compris que les routiers avaient un canal bien spécifique, soit le canal 19. Après, mon 1er TX était un SWISS CB MK1 avec 22 canaux AM FM et une puissance de 500mw, par la suite, j'ai connu d'autres TX ce qui ma permis de faire des distances DX ! C'était le bonheur pour moi et je crois que j'ai essayé toutes les antennes CB fixes qu'il y avait sur le marché, ce qui ma beaucoup aider pour connaitre chacunes de celles-ci. ensuite est venu le City Call TX 933 et 934 mhz avec une puissance de 5 watts nous fabriquions nos antennes et nos micros nous mêmes, jusqu'au moment où nous avons du arrêter cette bande en l'an 2000.

Ensuite quelques années sont passées, et je me suis dis : "bon ben écoute passe une licence radio amateur c'est ton hobby" donc moteur... chose faite depuis 4 ans maintenant et je dispose d'une licence HB3 ce qui veut dire, 50 watts FM bi-bandes, et 100 watts sur 10m,15m, 80m et 160m ce qui me donne la possibilité de faire de bons QSO. Je fais partie du club HB9XC, par conséquent j'ai beaucoup appris avec les contests, JEC etc. J'ai appris également beaucoup avec certains HB9, et ma prochaine étape, c'est cette licence HB9.

Actuellement, à cause d'une voisine très sympathique, j'ai démonté toute l'installation que j'avais ici à Bienne (selon les photos ici.). Tout cela pour une antenne d'un mètre de plus !!! Malgré un permis de construire qui ma couté 2400 francs suisses. J'ai donc décidé de tout démonter et de m'installer en portable, en effet, du fait d'avoir besoin de passer obligatoirement chez la terrasse de cette charmante voisine. J'ai donc renoncé à la revoir ! ceci étant dit, la radio pour moi est comme une drogue, j'adore la communication, les conseils et surtout depuis que je suis en portable, les promeneurs qui passent à côté de la voiture, me posent pleins de questions et même certains sont très intéressés pour cet hobby et j'en suis fier.



Suite au gros problème de voisinage qui m'a obligé à tout démonter, je suis actif en portable.

En effet, ma voiture est équipée d'une alimentation 40a fixée dans le coffre et d'un préampli VHF et dont les câbles m'ont pris beaucoup de temps pour l'installation. Ceci étant dit, le tout est monté en maximum 15 minutes sur la Montagne de Boujean (JN37PE) au-dessus de la ville de Bienne.
Les antennes sont : une R7, une 16 éléments VHF jxx16 de 10m de boom, une flexa 7 éléments et une 19 éléments UHF flexa. Et au cas ou pour le fun...une petite V2000. Cependant, il faut juste trouver le moyen d'avoir un pied constitué d'un tube avec une plaque, ensuite, installer le rotor et le tour est joué ! Pour la R7, il suffit de la monter au sol tube contre la roue et de la sangler au rotor. Les résultats sont fantastiques !!!
Vous connaissez certainement HB9DLO,HB9ONN,HB9OMI et moi-même (champion d'Europe des châteaux), merci encore à eux pour leur travail et leur engagement.

Voilà, je crois que j'ai décrit un peu mon parcours de la radio et j'espère encourager encore pleins d'OM's à se mettre plus souvent au micro, plutôt que d'écouter car c'est dommage que certaines stations bien équipées, ne soient pas plus souvent QRV.

Meilleures amitiés à tous !

Christophe HB3YMM

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Veuillez me faire parvenir les articles suivants : ....
.... Chèque à la commande - Frais d'envoi : nous consulter.

Un indicateur de charge a LED pour batterie

Par F4CRM

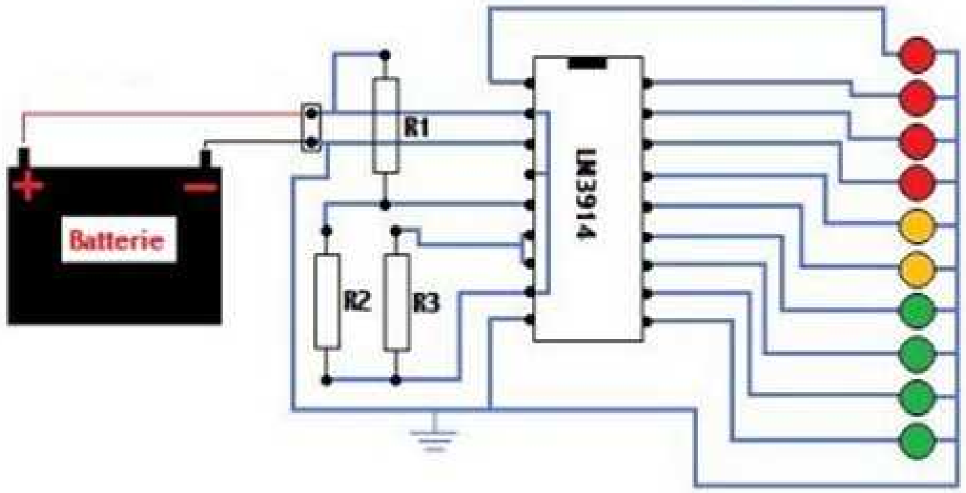
Ce montage est des plus simples grâce au circuit intégré LM3914. Il se présente sous la forme d'un boitier DIL 18. Son fonctionnement est simple, il compare une tension par rapport a une tension de référence et affiche le résultat en allumant des LED.

Ses possibilités sont multiples en parcourant le net vous y trouverez plein de montages possibles dans diverses applications. Ici je vous relate juste ce que j'ai expérimenté.

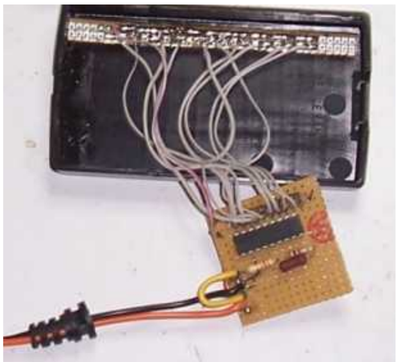
Donc partons du principe qu'en portable, il est difficile de toujours emporter du matériel de mesure. Lorsque la batterie atteint un niveau de tension critique pour l'émetteur, cela se traduit par une dégradation de la qualité de la modulation. Donc ce petit montage va permettre de contrôler le niveau de la batterie par une lecture simple et rapide pour peu qu'on utilise de la led de couleur.

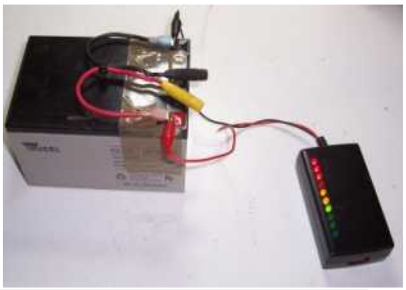
Chaque Led représente 1,5V environ. Le LM3914 gère un afficheur à 10 Led et la plage de fonctionnement de ce montage est de 1 à 15V.

La consommation de ce montage est de l'ordre de 400mA environ, mais il est possible de le réduire a 250mA en ne raccordant pas la borne 9. Ce qui a pour effet de n'allumer qu'une seule led indiquant le niveau au lieu de toutes les allumer en mode bargraphe.



Les valeurs des résistances R1 et R2 sont très importantes. Ce sont elles qui constituent le pont diviseur de tension qui va déterminer la valeur de la plage de tension d'utilisation. C'est a dire de 1 à 15V pour ce montage. Donc R1= 200K et R2 = 18K. Enfin R3 = 1K.

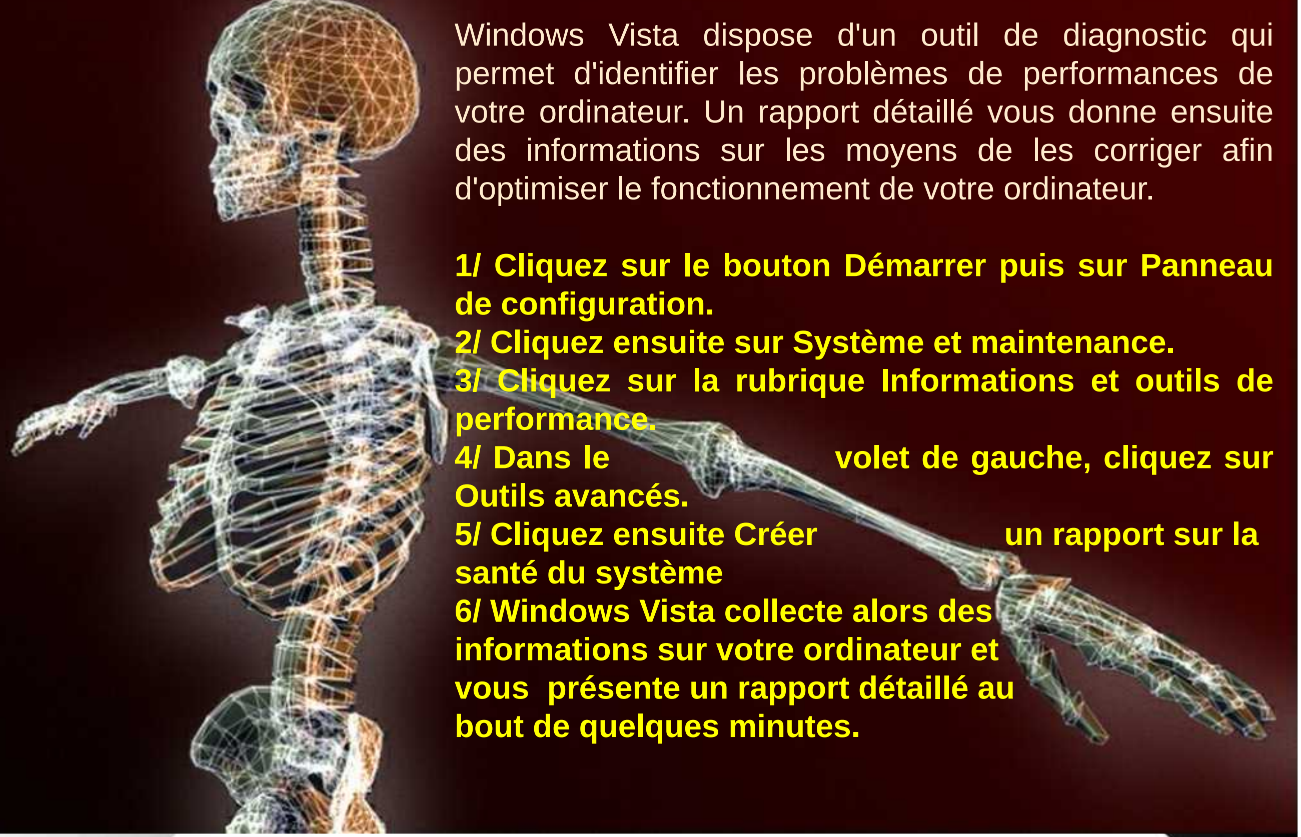




Voila un montage simple et efficace.
Bonne realisation... F4CRM

ORDITRUC
Par ON3MAJ

Vérifier la santé de son ordinateur Windows Vista



Windows Vista dispose d'un outil de diagnostic qui permet d'identifier les problèmes de performances de votre ordinateur. Un rapport détaillé vous donne ensuite des informations sur les moyens de les corriger afin d'optimiser le fonctionnement de votre ordinateur.

1/ Cliquez sur le bouton Démarrer puis sur Panneau de configuration.
2/ Cliquez ensuite sur Système et maintenance.
3/ Cliquez sur la rubrique Informations et outils de performance.
4/ Dans le volet de gauche, cliquez sur Outils avancés.
5/ Cliquez ensuite Créer un rapport sur la santé du système
6/ Windows Vista collecte alors des informations sur votre ordinateur et vous présente un rapport détaillé au bout de quelques minutes.

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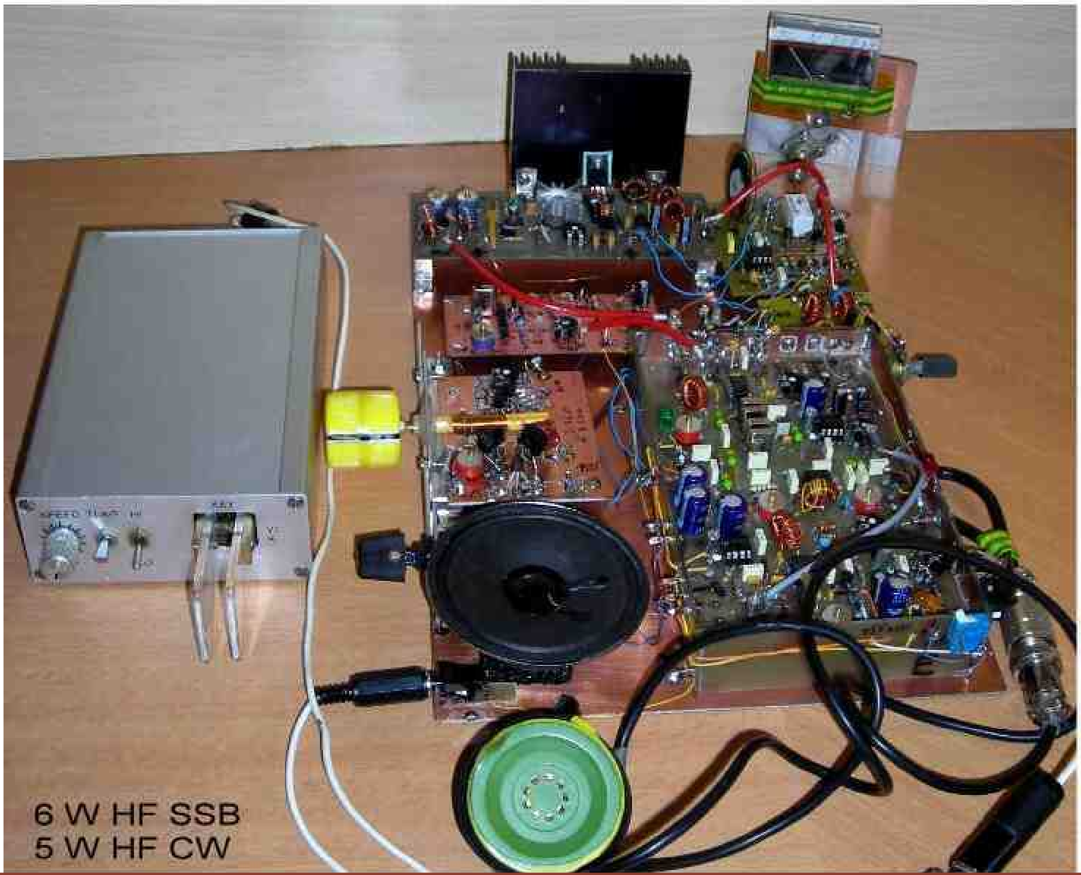
Idée de PY2OHH - Conception & réalisation F6BCU

POUR REJOINDRE GROUPE BINGO QRP :
http://fr.groups.yahoo.com/group/Groupe_BINGO_QRP_SSB_CW/

Photo 7 17 août 08

Transceiver BINGO-DUO SSB/CW 40 m

Sur une idée de PY2OHH, maquette
conception et construction F6BCU



Courant juillet 2008, la station radioamateur brésilienne PY2OHH, Miguel Angelo BARTIE, nous annonçait par courriel, la fabrication d'un transceiver BINGO 40 SSB. Ce transceiver présentait une nouveauté, la possibilité de travailler en CW (télégraphie).
Notre dernière construction était le transceiver télégraphie BINGO CW 40 ; en reprenant l'idée de PY2OHH, d'avoir adapté la CW au BINGO SSB et en rapprochant les schémas de nos BINGO SSB et BINGO CW 40, nous pouvions facilement adapter la CW.

Le BINGO-DUO SSB CW 40 mètres était né.

LE MÉCANO BINGO
Ce que nous souhaitions lorsque nous avions lancé la construction des transceivers BINGO SSB sur Yahoo group, c'était de disposer de platines de circuits imprimés identiques et interchangeables d'une bande à l'autre. Les premiers pas étaient faits avec le générateur BINGO SSB et le générateur BINGO CW.

Actuellement, nous possédons une nouvelle platine interchangeable sur circuit imprimé : c'est la platine DRIVER –PA équipée d'un 2N2222, 2N2219 et IRF530. Il suffit seulement pour l'adapter sur 20, 40, 80 m et d'autres bandes de changer les valeurs des filtres de bande d'entrée et du filtre passe-bas de sortie. En fonction de la bande de travail et pour la puissance optimum, modifier dans le rapport 1 à 4 ou 1 à 9 le transformateur de sortie large bande inséré dans le Drain de l'IRF510.

Cette platine DRIVER-PA amplificateur linéaire large bande équipait déjà le transceiver BINGO CW 40, et sans aucune modification il était possible de l'adapter à un autre transceiver qui est le BINGO-DUO SSB CW 40.

LE V.F.O.—P.T.O. (Permeability Tuning Oscillator)

Dans l'article précédent en 2 parties « Manuel de construction du PTO », nous avons largement développé sa construction facile et mis en valeur sa stabilité exemplaire en conjonction avec l'oscillateur VACKAR.

Le P.T.O est mis en application pratique sur le BINGO-DUO SSB CW 40 avec succès, et fonctionne parfaitement sur les nouveaux BINGO-DUO SSB CW 20 mètre et BINGO CW 20 mètres.

ADAPTATEUR TÉLÉGRAPHIE (CW)

Pour faire de la vraie télégraphie, c'est l'idée de PY2OHH, il faut un véritable générateur HF de télégraphie.

Nous avions courant 2006 fait des essais sur le BINGO SSB en injectant du 800 Hz sinusoïdal issu d'un petit générateur sur circuit imprimé dans une dérivation de l'entrée BF micro. Cette solution fut vite abandonnée par la difficulté de calage sur le correspondant télégraphiste.

Le générateur HF de CW est identique à celui qui équipe la platine BINGO CW, nous travaillons sur le BINGO-DUO avec un F.I. de 10,240 MHz et nous allons générer de la CW en émission par un oscillateur quartz séparé, avec une porteuse H.F. voisine de la fréquence de la F.I. mais décalée de 600 à 800 Hz.

Le résultat : en position CW sans retoucher au décalage de réception en LSB ou USB du générateur BINGO SSB, il suffit de recevoir son correspondant télégraphiste avec une tonalité de 600 à 800 Hz et de manipuler. La liaison CW se fait facilement. Si nous effectuons la simulation de QSO sur charge fictive avec un transceiver commercial en position CW la liaison est parfaite chacun s'entend avec un décalage de 600 à 800 Hz.

Quant à l'écoute de la tonalité de CW monitoring en émission, elle est générée par la platine de «Commande–tonalité CW » sur haut parleur séparé. En position SSB émission, c'est le silence total aucun retour audio BF.

I—SCHÉMA GÉNÉRAL (figure1)

- Le générateur BINGO n'a subi aucune modification sur ses réglages de base.
- Le V.F.O. est remplacé par un P.T.O.
- La platine Driver-PA est identique à celle du BINGO CW 40 (ampli. Linéaire).
- La platine filtre de bande 40m réception est aussi identique à celle du BINGO CW 40.
- La platine Générateur tonalité CW et Commande E/R a été modifiée. Elle est commandée au choix par le PTT du micro en SSB et le manipulateur Morse en télégraphie. Elle assure aussi le passage antenne émission ou réception.
- Une platine générateur O.L. CW commandée au rythme de la CW génère de la HF qui est injectée à niveau variable au niveau de la pin 1 du NE612 N°2 (connexions en rouge)
- Un contacteur de façade commande le fonctionnement SSB ou CW. En émission CW la partie générateur BINGO SSB n'est plus alimentée.
- Un atténuateur (conseillé) d'entrée accessible en façade réglable en réception, évite toute transmodulation sur les signaux puissants le soir sur 40m.
- Pour facilité les réglages HF un bouton poussoir ou contacteur TUN est prévu en façade.

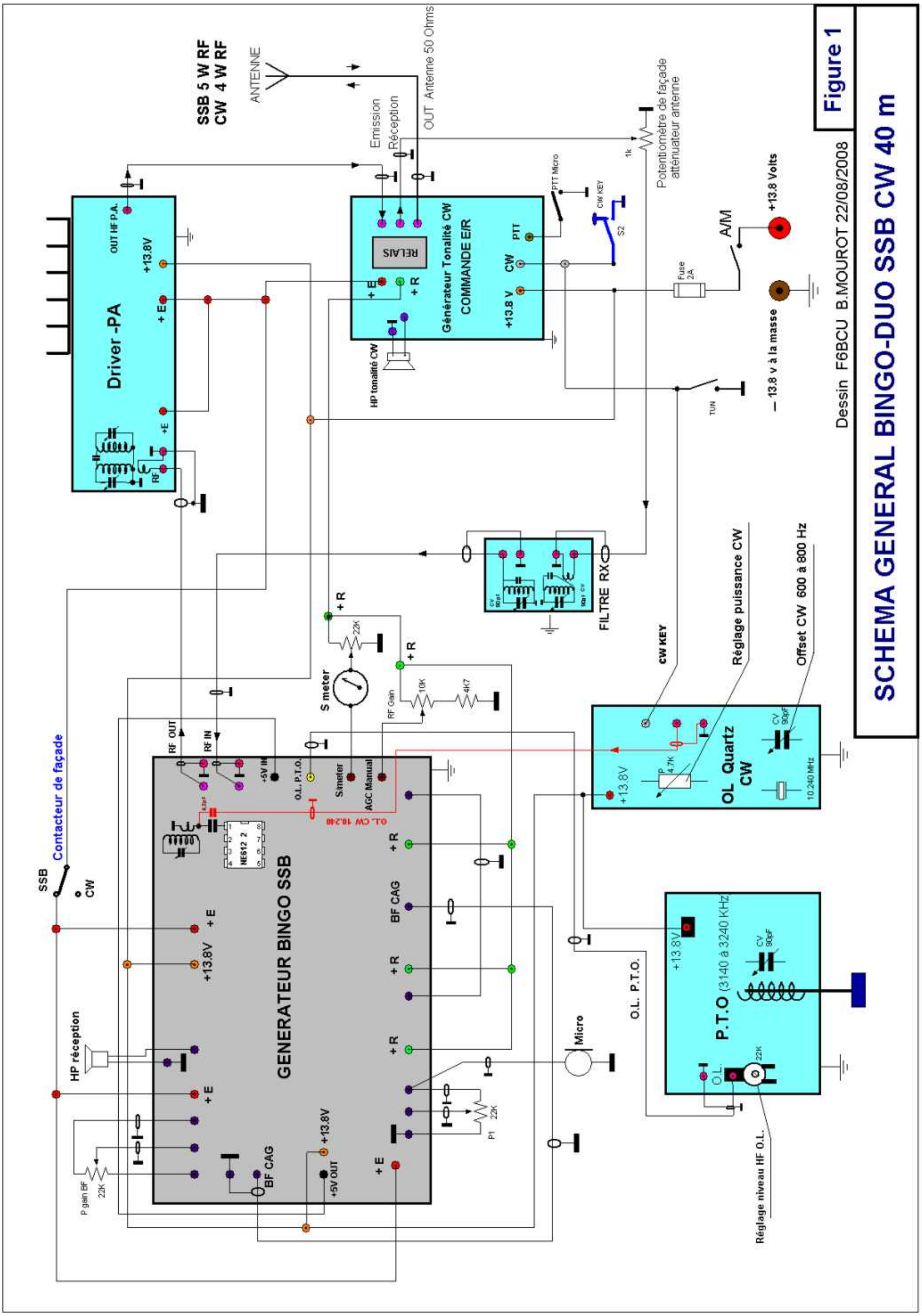
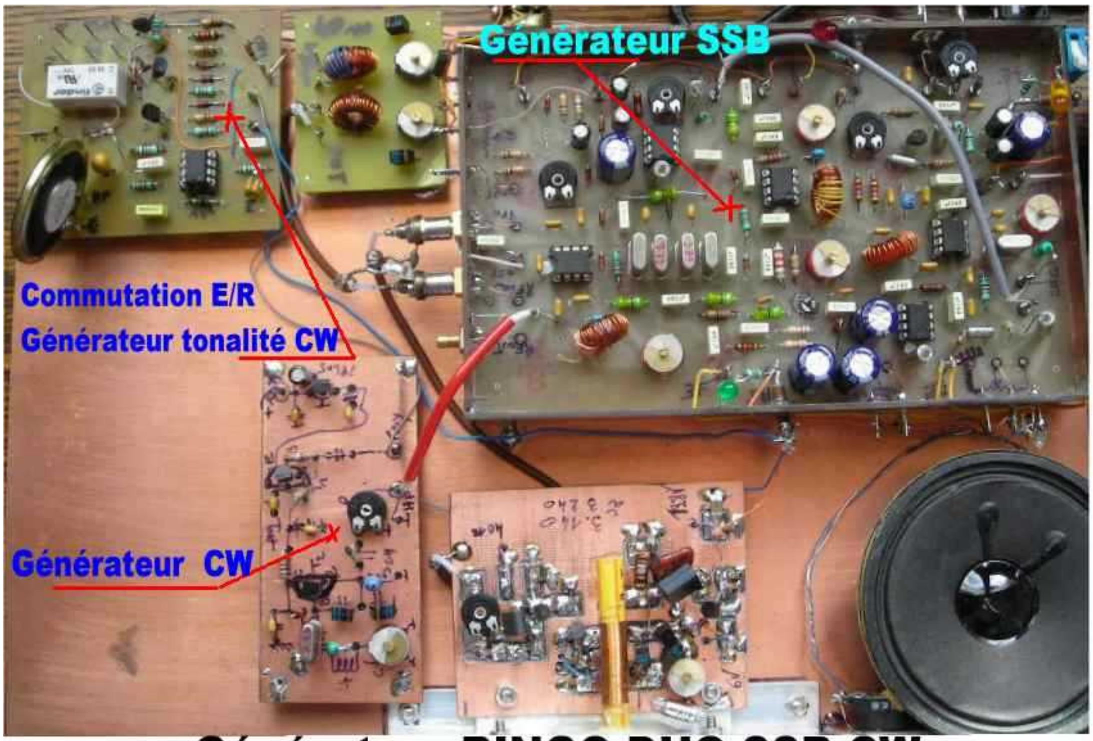


Figure 1

SCHEMA GENERAL BINGO-DUO SSB CW 40 m

Dessin F6BCU B.MOUROT 22/08/2008

II—GÉNÉRATEUR BINGO DUO SSB CW (Nouveauté)

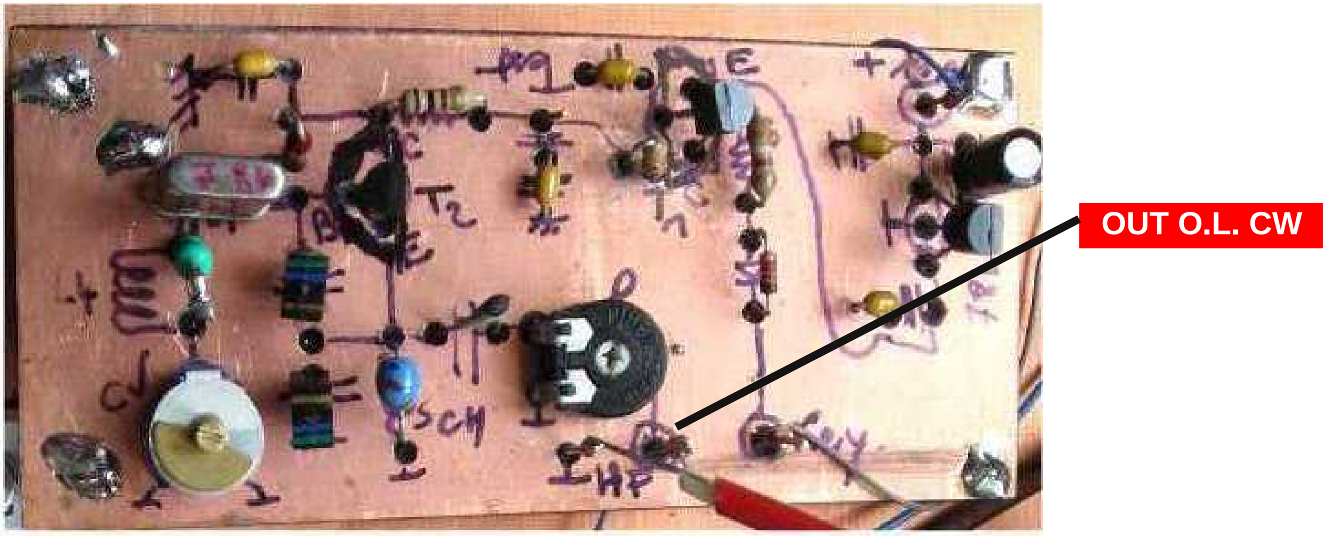


Générateur BINGO-DUO SSB CW

COMPOSITION DU GÉNÉRATEUR BINGO-DUO
Sur la photo ci-dessus nous pouvons observer trois parties :

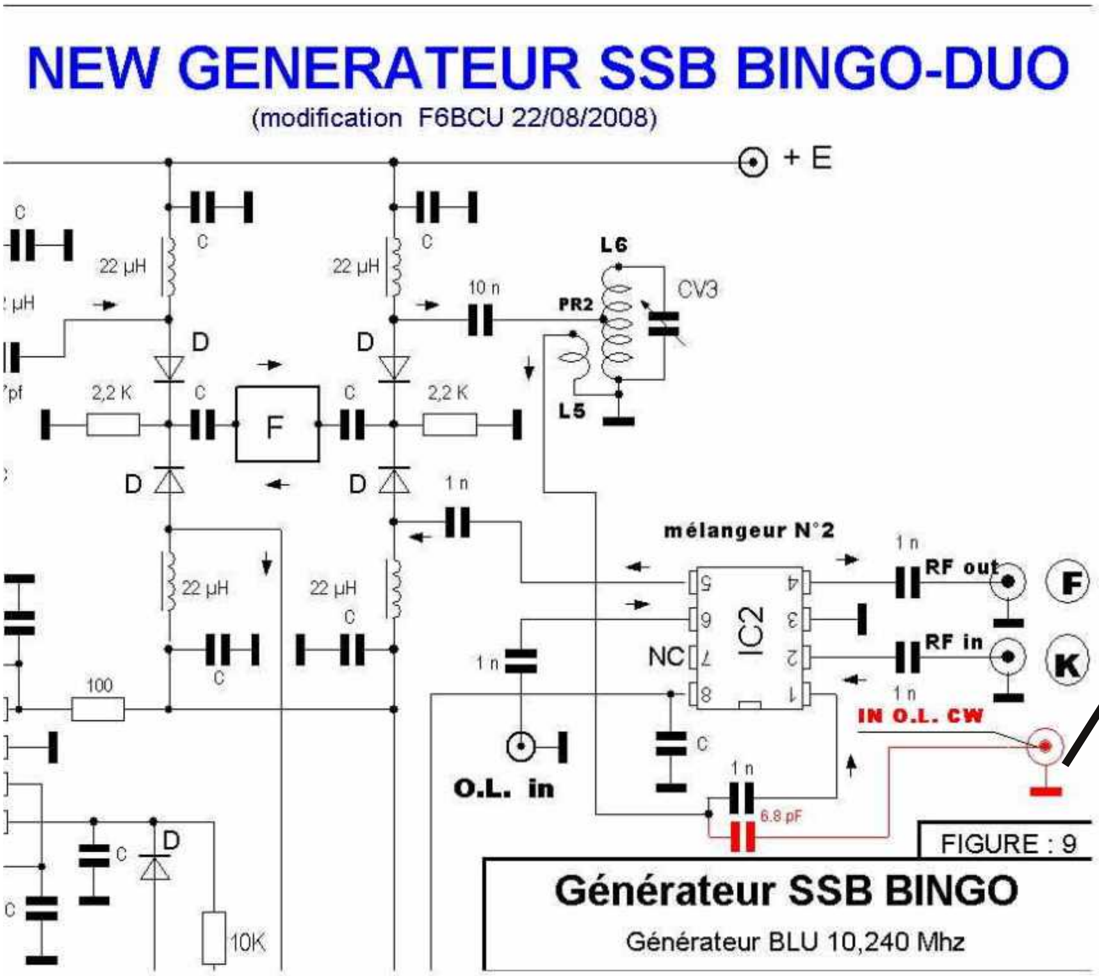
- Le générateur BINGO SSB d'origine
- Le générateur HF CW
- Le générateur de tonalité CW et commande émission-réception et relais antenne.

Ces 3 éléments indissociables forment le Générateur BINGO-DUO CW SSB qui va servir de base à la construction de tout transceiver mono-bande BINGO-DUO SSB CW sur la bande désirée 80, 40, 20m et up..



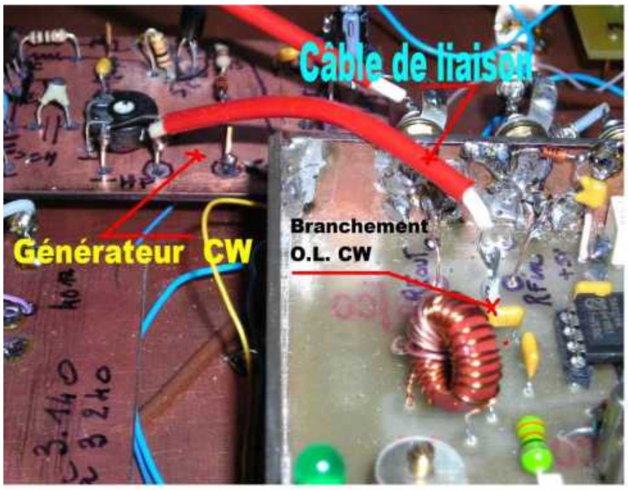
Circuit Générateur HF de CW sur 10.240 côté composants

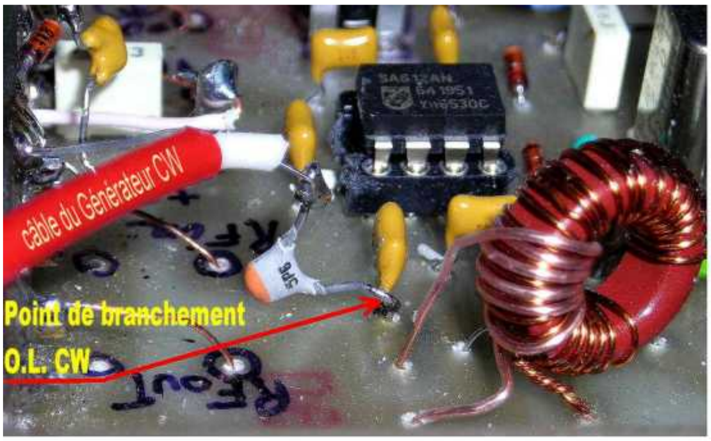
SCHÉMA DU BRANCHEMENT GÉNÉRATEUR CW AU GÉNÉRATEUR SSB



Se branche à la sortie OUT de l'O.L. CW

Cette vue partielle du schéma Générateur BINGO SSB indique le point de raccordement du générateur CW et du générateur SSB. La capacité de liaison au niveau de la Pin N°1 du NE612 N°2 fait de 5,6 à 6,8 pF.

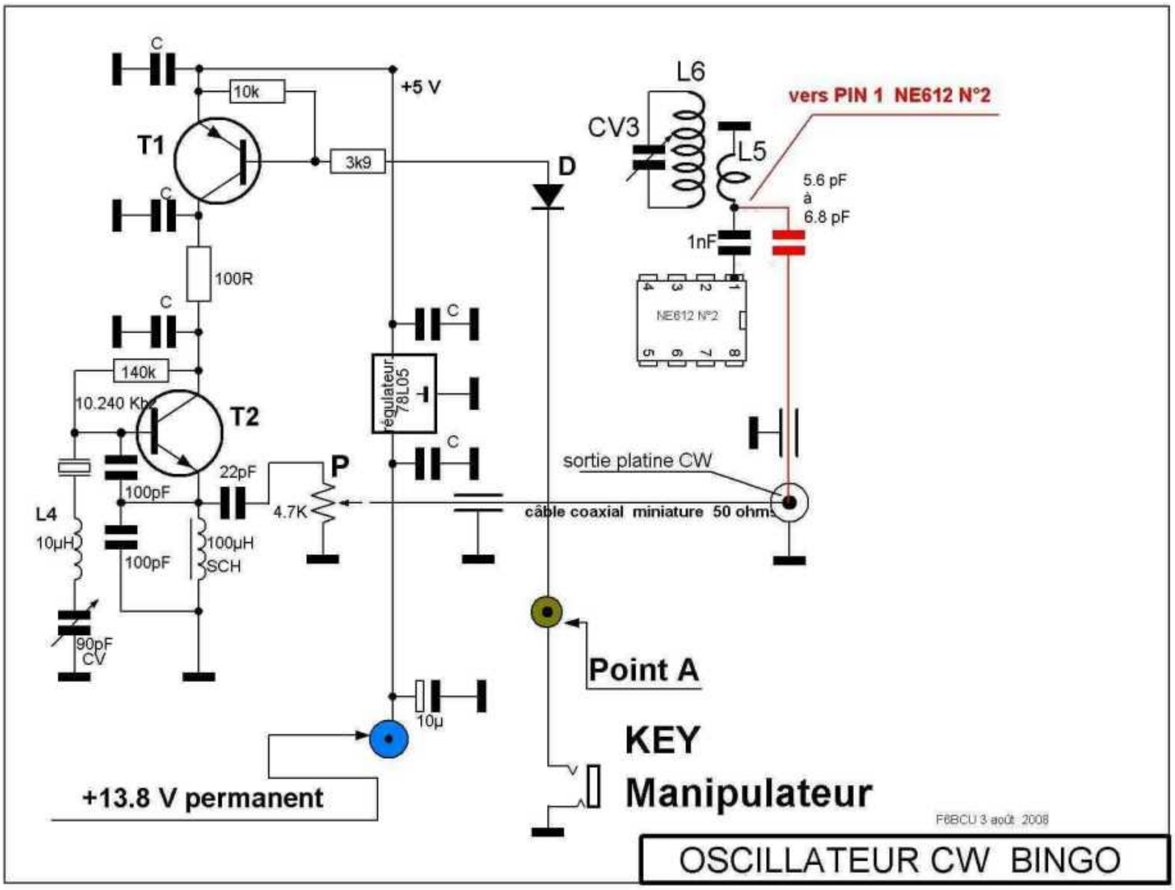




Détail de la liaison Générateur CW à Générateur SSB et détail de la connexion au niveau Pin 1 du NE612 N°2. L'extrémité de la capacité de 5,6pF est soudée juste sur la capacité de 1nF (1000pF) raccordée à la Pin 1.

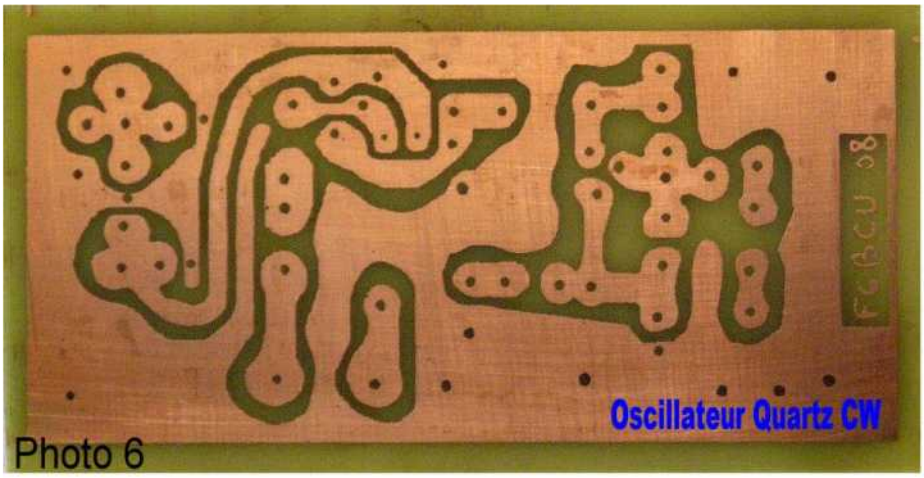
III—GÉNÉRATEUR O.L. CW

SCHÉMA

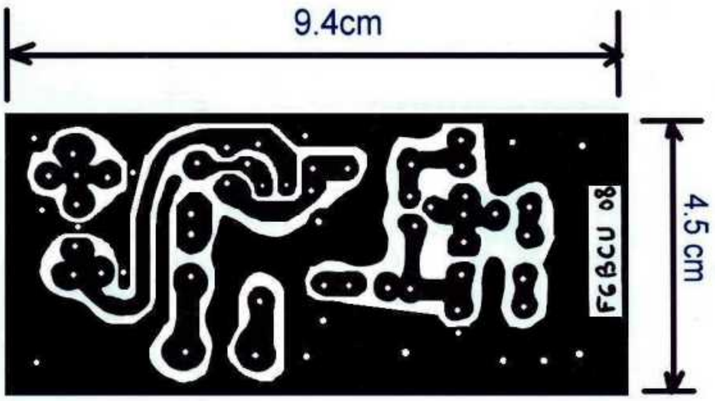


Nous partons d'un oscillateur quartz 10,240 MHz T2, avec un 2N2222 ou 2N3904 (dont la fréquence réelle tourne vers +/- 10,238 MHz). Cet oscillateur est manipulé directement sous 5 volts régulés en CW par T1 transistor PNP 2N2907 ou 2N3906. L'injection de la HF en sortie est variable par P résistance ajustable de 4,7 K. Cette HF véhiculée par un petit câble coaxial d'une dizaine de centimètres de longueur est soudé à l'entrée du condensateur de1nF qui relie la Pin 1 du NE612 N°2.

CIRCUIT IMPRIMÉ



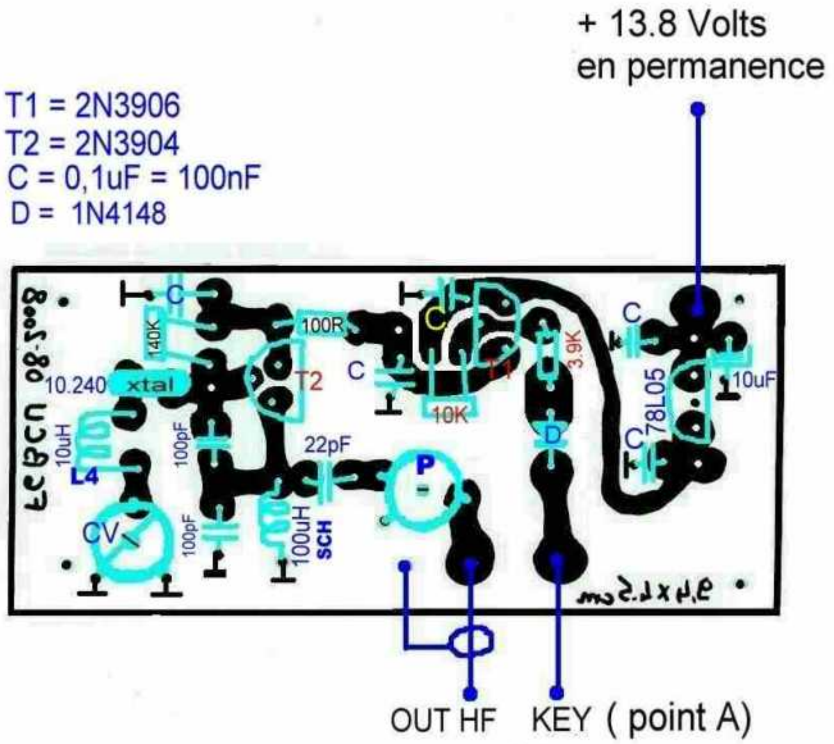
Voici ci-dessus, le circuit imprimé côté cuivre du Générateur O.L.CW sur époxy simple face.
Cette version est considérée comme définitive.



Oscillateur CW côté cuivre

transceiver BINGO SSB
modification CW 8 août 2008

IMPLANTATION DES COMPOSANTS



Oscillateur côté composants
avec plan de masse

Transceiver BINGO SSB
modification CW août 2008

LISTE DES COMPOSANTS GÉNÉRATEUR CW

T1 = 2N3906 = 2N2907
T2 = 2N3904 = 2N2222
1 x Quartz 10.240 KHz
1 x Condensateur Ajustable plastic 80 à 103pF rouge, violet, etc.
1 x régulateur 100mA 78L05
L4 = 10 uH,
SCH = 100uH
1 x diode 1N4148
P = 4.7K = résistance ajustable genre Piher horizontal
C = 0,1uF = 100nF
5,6 pF ou 6,8pF = capacité céramique (pas critique)
2 x 100pF = NPO mica ou styroflex
1 x 22pF = NPO
1 x 140 K ou 150 K (1/8 de W) (pas critique)
Toutes les résistances sont 1/8 ou 1/4 de W (pas critique)

IV—LES RÉGLAGES

Il n'y a aucun réglage à faire sur le générateur BINGO SSB.

Au niveau du Générateur CW :

- S'assurer de la présence du 5 V,
- Brancher un fil de 50 cm en volant à la sortie HF
- S'écouter sur un récepteur en position LSB ou USB vers +/- 10.238 KHz
- Brancher le point A à la masse et vérifier la présence de HF.
- Tourner CV la tonalité varie

Il faudra pour finaliser préparer la liaison coaxiale Générateur CW au Générateur BINGO SSB et souder la capacité céramique de 5,6 à 6, 8 pF au niveau de la capacité de 1nF prolongeant la Pin 1 du NE612 N°2.

Note de l'auteur : voir la suite de l'article dans la 2ème partie

FIN de la 1ère partie

F8KHM –Radio club de la Ligne bleue –-
SAINT DIE DES VOSGES
F6BCU- Bernard MOUROT—9 rue de
Sources—REMOMEIX--VOSGES

F6HQY Une Antenne entre les dents

Bernie de F6HQY nous propose sur un ton comique et incisif, une nouvelle concernant notre monde radioamateur. A prendre au second degré, cette nouvelle en plusieurs parties s'intitule :

CHATEAU FOIREUX (6ème partie)

Toute ressemblance avec des personnages existant ou ayant existé est fortuite et involontaire de l'auteur.

Jacques tournait frénétiquement le VFO entre 7040 et 7099 mais le niveau du S-mètre restait collé à 9+20 quand ce n'était pas carrément au taquet.

- Mais kesse que c'est que ce bazar ? Vous avez vu ça ! La bande est impraticable...Et il y a des ritals partout... Et des espagnols... Quant aux DL, je ne vous dit même pas !

- Bon sang, on aurait dû vérifier qu'il n'y avait pas de contest ce week end. Merde, je n'y ai pas pensé...

Cédric se mordait les lèvres de frustration, il s'en voulait de ne pas avoir eu l'idée de se renseigner. Dans la tourmente des ondes, leur activation allait passer complètement inaperçue, un vrai pet de mouche dans une chiasse d'éléphant. Il était de toute manière probable qu'il serait impossible de trouver 2,4 Khz pour lancer appel... Il fît part de ses réserves aux autres, concluant par : « Bon, qu'est-ce qu'on fait ? ». André fût le premier à réagir :

- Moi je le sais, ce qu'on va faire : on se barre, ce n'est pas la peine d'insister. De toute façon, cette histoire a été foireuse dès le début. J'ai encore le temps de passer chez un carrossier. Ou chez Renault, parce que pour remplacer la vitre...

Robert, curieusement, n'était pas du même avis. Confortablement installé dans un transat, un verre à la main, il dit :

- Oh ! Les gars ! Vous êtes des radioamateurs ou des pisse menu ? Vous allez trouver une place à un moment ou à un autre et ça va rouler ! Tiens, mettez vous dans la bande CW, vous serez peinard. Et puis on est bien, ici, et j'ai préparé un petit gueuleton qui va vous remonter le moral...

Cédric fût du même avis, il y avait de plus un chalenge intéressant à relever : activer ce putain de château dans le bazar complet du 40 mètres. Tout bon radioamateur se devait de relever ce défi, surtout lui qui était un petit jeune et avait ses quartiers de noblesse à acquérir.

Jacques se rangea à la majorité :

- Bon, on reste. Sur quelle fréquence je me mets, Robert ? Mais pas sur la bande CW, j'ai des principes !

- N'importe où, et tu lances appel. Ne t'occupes pas des ritals, sinon tu ne feras jamais rien !

Jacques appuya sur la pédale du micro et commença son appel :

« CQ CQ CQ CQ de F7KKO, F7KKO, DFCF 98-012. Transmettez s'il vous plaît »
« The frequency is occuped ! Move up ! »
« La frequencia esta ocupada ! »
« CQ da la Italia Kilo uno ... »
- Quel bazar ! Je fais quoi, Robert ?
- Tu appelles, bon Dieu ! Tu vas te faire piquer cette fréquence !
« CQ CQ CQ CQ de F7KKO, F7KKO, DFCF 98-012. Transmettez s'il vous plaît »
« The frequency is occuped ! Move down ! »

« CQ da la Italia Kilo uno ... »
- Bon, ça me gave. Cédric, prends le micro et débrouille toi, je vais aller boire un coup. André, arrête de faire la tête pour cette histoire de bagnole ! Viens donc boire un verre avec moi, ça te changera les idées. Cédric passa le reste de la matinée à batailler dans le QRM et autres splaters, il s'acharnait comme un beau diable et voulait vaille que vaille réussir cette activation dont c'est lui qui avait eu l'idée, fallait-il le rappeler ? Robert finit par venir le voir vers 13 heures :
- Alors mon gars, comment ça se passe ?
- Ça va, ça va... J'ai fait une quinzaine de contacts mais c'est la galère. Et puis tenir le log en même temps sur l'ordinateur, ce n'est pas facile... Je crois qu'il faudrait un peu plus de puissance parce que, avec ce contest à la noix, on ne fera rien de bon.
- Si tu veux, on mettra l'ampli d'André. Mais après déjeuner, par ce que c'est prêt ! Allez, viens donc, tu as bien mérité un peu de détente.
Cédric baissa le volume du 706 et alla s'installer près de la table, sur une chaise pliante. Le Vicomte était revenu et Robert annonça le menu :
- Bon, en entrée, plat de charcuterie avec un petit Sancerre. Ensuite, cassoulet toulousain avec un Madiran dont vous me direz des nouvelles. Pour finir, fromages à volonté. Je vous conseille le Camembert, il est à point !
- Il y a des fruits ? demanda Cédric.
- Des fruits ? Pourquoi faire, y'a des malades ici ?
Tout le monde éclata de rire. Même le Vicomte.

Cédric, l'esprit un peu embrumé par les libations, décida vers quatorze heures trente qu'il était temps de reprendre l'activation. Et demanda du même coup que l'ampli soit installé. André n'était pas trop chaud, Jacques s'en foutait mais Robert avait promis. Il réquisitionna donc les deux autres qui se levèrent en maugréant, c'est vrai que transbahuter cet engin faisait venir la transpiration au front, surtout après un repas pour le moins copieux. Peu sportif, et complètement fait, le Vicomte informa l'assemblée qu'il allait dormir un moment histoire de digérer. Il s'éloigna en zigzaguant pendant que Robert soufflait comme un bœuf en déposant l'alimentation de l'ampli par terre :
- Dis donc, André, tu n'as jamais entendu parler des transistors ? Tu comptais alimenter tout le quartier avec cet engin ? Enfin bon, si tu veux t'en séparer, les américains te l'achèteront certainement pour alimenter la chaise électrique...
- Pfffeuuu ...On dirait que tu n'as jamais vu un ampli !
- C'est vrai que des comme ça... Bon, j'espère qu'il y a une bonne rallonge car j'ai repéré le tableau électrique dans le couloir d'Ambroise.
Il y avait une rallonge et Cédric la dévida vers la porte d'entrée du Vicomte, Robert se chargeant du branchement tandis que les autres connectaient l'ampli au 706. Jacques demanda :
- On fait comment, pour la comut' ?
- J'avais prévu un interrupteur pour le relais...
- Ce truc ?
- Oui...
- Ben dis donc, Mac Mahon devait avoir le même dans son salon !
- Hé, si mon ampli ne vous plaît pas...
- Je déconne !
Robert revint en levant le pouce : « C'est branché, vous pouvez y aller ! »
Cédric demanda à André :
- Tu l'allumes comment ?
- Là... Le bouton rouge.
- Laisse plutôt ta place à André, fît Jacques, il va le mettre en route et le régler... C'est délicat, ces trucs là...
André s'installa et, après une hésitation, appuya sur le bouton rouge. A suivre...

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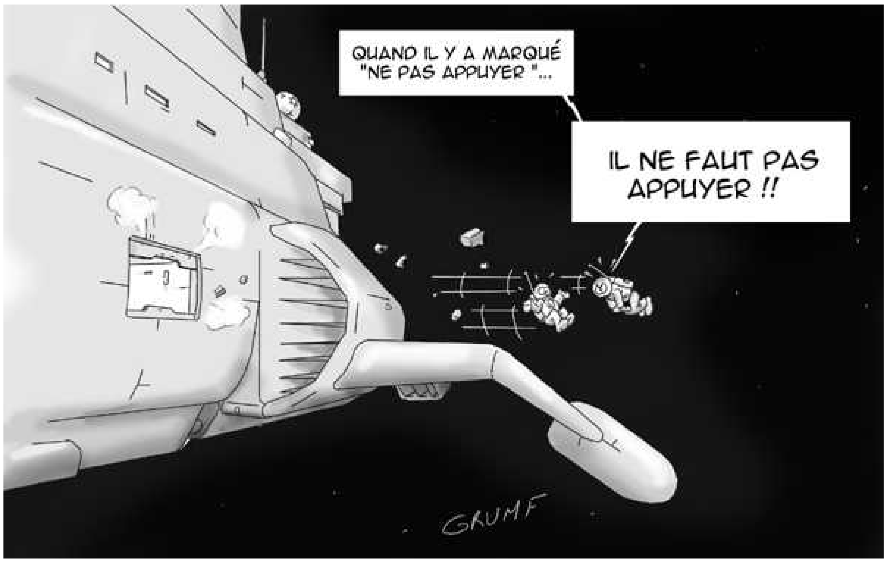
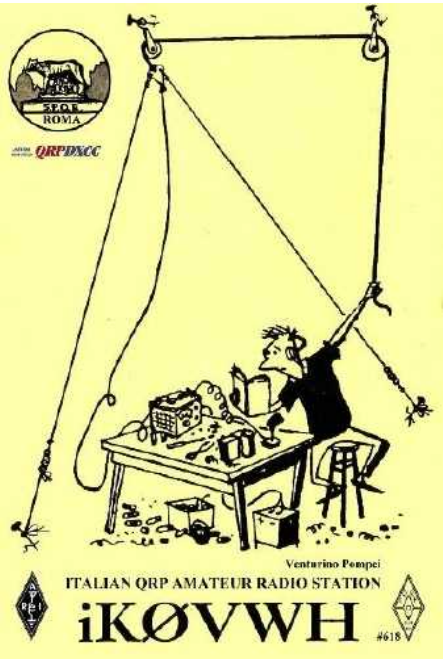
COMIC'S HAM

La rubrique détente

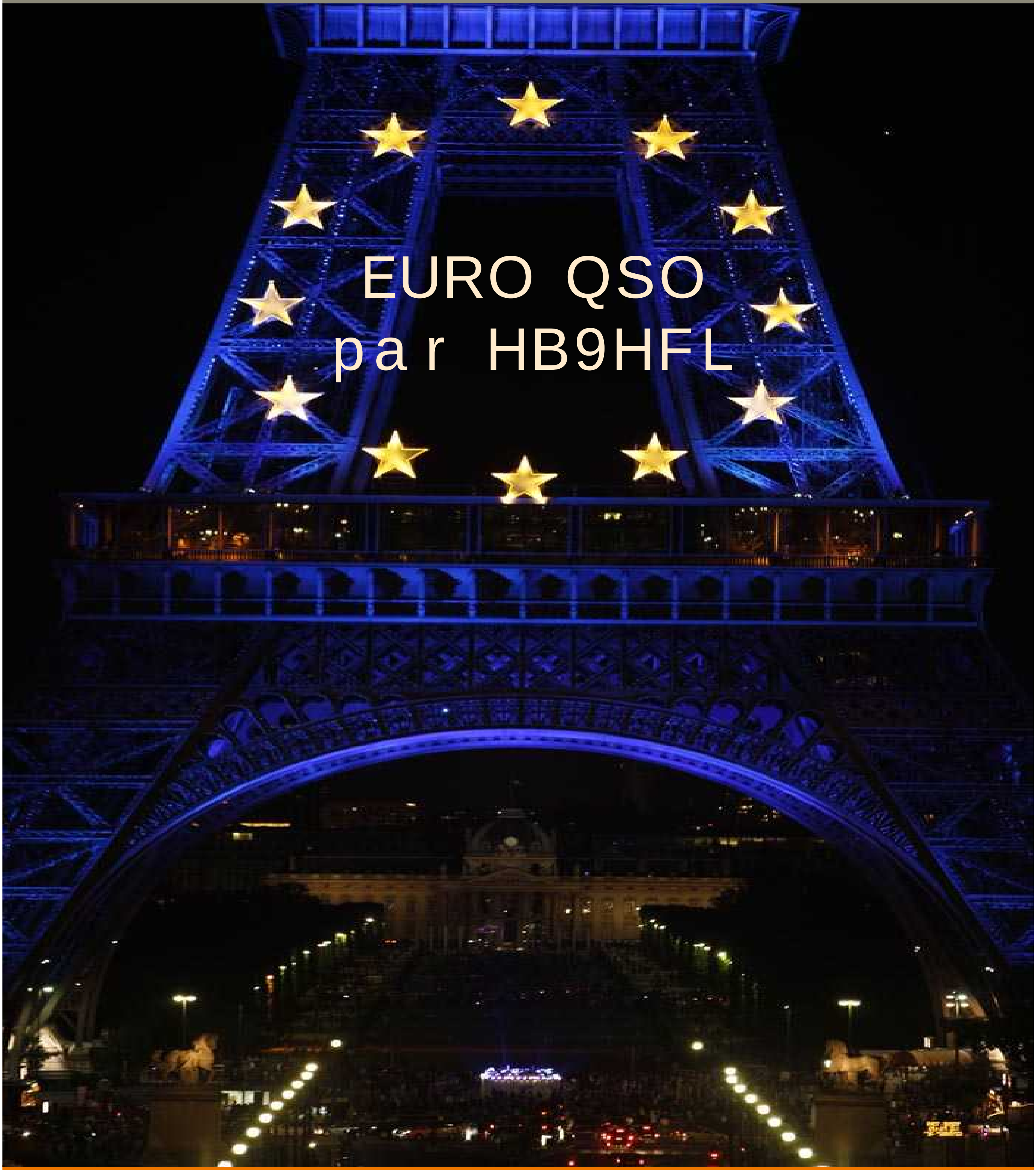
Le 1er pocket VHF !


QUAND IL Y A MARQUÉ "NE PAS APPUYER "...
IL NE FAUT PAS APPUYER !!
GRUMF



HAM-MAG

Le 1er E-magazine hebdo pour radioamateurs, amateurs radio, SWL...



EURO QSO
par HB9HFL

NUMERO 8
GRATUIT

17 NOVEMBRE 2008
htpp://ham.france.free.fr

EDITORIAL

L'angoisse de la page blanche...

Nous voila arrivés au numéro 8, presque deux mois que ce magazine existe. L'angoisse n'est pas de trouver des infos, de mettre en page, de faire les mailings ou gérer les abonnements. Non, la pire angoisse est la rédaction de cet édito. Je n'ai jamais été écrivain dans l'âme, pourtant, je dois pondre ce petit texte. Non pas par vocation littéraire tardive, mais parce que je pense que ce petit mot hebdomadaire donne une image plus humaine à cette publication, voire, en allant plus loin, un esprit (pour ne pas dire une âme).

Cette semaine un abonné m'a envoyé un sympathique message (il faut dire que j'en reçois plusieurs par jour, merci !) en écrivant qu'il avait retrouvé l'esprit O.M. dans ce magazine. C'est peut-être cet élan de participation désintéressée qui donne cette impression, cette envie de partager pour le plaisir.
En même temps, nous avons tous besoin de reconnaissance. Même si on se refuse à l'admettre, on prend plaisir à recevoir les félicitations et les témoignages de gratitude.
Quand je reçois ces emails de congratulations, ça me fait du bien, et il serait présomptueux d'affirmer le contraire.
Surtout, ça motive ! Plusieurs milliers de personnes sont abonnées à ce magazine,
Depuis peu, les O.M. des pays de l'Est et notamment de Roumanie arrivent en masse.
Les O.M. francophones sont nombreux et leur nombre ne se limite pas à la France, la belgique, la Suisse où le Québec.
Beaucoup de personnes venant de pays différents et plus ou moins éloignés, manient avec brio la langue de Molière. Il est normal de rendre aussi hommage à ceux qui font l'effort de comprendre et traduire les articles pour les non francophones. HAM-MAG est un magazine mondial qui, grâce à la magie du Net, se gausse des frontières... Bienvenu à tous !

(c) www.pixelenvrac.com

Cordiales 73 et bonne lecture.

Vincent FAUCHEUX, F5SLD
ham.france@free.fr

HAM
MAG
N°8

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Remerciements à **F1OK, F1AGW, F1DOI, F4ABV, F4DHS, F5GPO, F5IRO, F6BCU, F6HQY, FR5CY, ON3MAJ**, **Jérôme**...
Merci aux différents annonceurs qui nous accordent leur confiance et à tous les O.M. qui nous ont envoyé des messages de soutien et des dons. Pardon à ceux que j'aurais oubliés...

Ce numéro a été distribué à plus de 2500 abonnés.
Au 15/11/2008, le montant total des dons se monte à 920 € dont 100 € ont été investi dans l'achat d'une licence de logiciel Web.
Le prochain investissement sera fait dans l'achat d'une unité centrale dédiée à HAM-MAG.
Vous pouvez nous contracter par Mail : ham.france@free.fr

Nous incitons nos lecteurs à ne pas copier et envoyer cette revue à leurs amis mais plutôt les inviter à s'abonner. C'est gratuit et sans publicité intempestive.
N'oubliez pas que ce magazine a été réalisé par des bénévoles au détriment de leurs heures de loisirs et de trafic.

L'histoire de l'Euro-QSO HAMSPIRIT

par HB9HFL Giovanni Converso

La petite histoire que je vais vous raconter commença le 13 mars 1997 à 6 heures du matin sur la bande des 80m...

J'explorais les fréquences à la recherche d'une station lointaine, quand tout à coup, un signal très faible en BLU attira mon attention. Je mis les écouteurs, puis le " DSP " afin de sortir cette petite voix qui répétait quelques lettres de son indicatif puis disparaissait rapidement dans le bruit de fond pour revenir quelques secondes plus tard... Après quelques manipulations laborieuses du "DSP " je compris enfin l'indicatif : 9A4IS.
Il s'agissait bien d'une station Croate et non pas d'une station perdue dans le Pacifique comme mon imagination aurait désiré capter...

9A4IS, Ivo

Au début ce contact fut vraiment pénible. Je compris avec beaucoup de peine le nom : Ivo et le QTH : Dubrovnik. Puis la propagation s'améliora et, après avoir échangé quelques mots en anglais, Ivo me demanda si je parlais l'italien et nous continuâmes le QSO dans la langue de Dante.
Je fus étonné d'entendre un Croate parler si bien l'Italien ! Ce premier contact radio fut très sympathique et chaleureux. Nous décidames de nous retrouver de temps en temps, tôt le matin, sur la bande des 80m et sur la fréquence de 3'753 KHz.
Au fil des contacts radio suivants, toujours très appréciés malgré la difficulté de la réception, j'appris qu'Ivo ne disposait que d'une antenne très modeste (un simple bout de fil de quelques mètres de longueur sans système d'accord...). De plus, l'appartement d'où émettait Ivo, se trouvait au rez-de-chaussée d'une vieille maison située en plein centre de la ville de Dubrovnik.

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Je vous laisse donc imaginer, dans ces conditions, la qualité des communications. J'appris aussi qu'Ivo était non voyant et qu'il avait beaucoup souffert pendant la guerre qui avait ravagé l'ex-Yougoslavie quelques années auparavant.... Je sentais beaucoup d'émotion quand il me parlait de sa famille et de ses amis qu'il ne pouvait plus rencontrer car toutes ces personnes se trouvaient dans une autre partie de l'ex-Yougoslavie dont l'accès était interdit aux Croates. Pour Ivo, le seul moyen de communication avec ces personnes qui se trouvaient à quelques centaines de Km de chez lui, était la radio car les communications téléphoniques étaient très difficiles et coûteuses et la poste ne fonctionnait pas du tout. Ivo émettait en phonie sur les bandes des 40m et des 80m mais les communications avec les stations de l'autre côté de l'ex-Yougoslavie et surtout avec les membres de sa famille et ses amis étaient vraiment très difficiles et Ivo souffrait de cette situation. Cela me faisait aussi de la peine...

Il fallait que je trouve un moyen pour l'aider. Je me suis donc adressé à un groupe d'amis d'Amnesty International (mouvement humanitaire dont je fais aussi partie) et je leur ai exposé ce cas. La réaction fut très positive. Une petite annonce fut publiée dans le bulletin du groupe de la Broye d'Amnesty International. Après quelques semaines nous avions récolté 265 Frs CH. Ce montant allait nous permettre d'acheter un bon dipôle multibandes raccourci de la maison Kelemen! Ivo fut très ému par cet élan de solidarité et de générosité. Le 19.06.1997, il nous envoya la lettre suivante (traduite de l'Italien):

"Cher ami Giovanni, Je t'écris cette lettre comme promis lors de notre dernier contact radio. Je suis encore très ému par notre discours. J'accepte votre proposition avec une grande joie et gratitude. Tu ne peux pas imaginer la joie que représente le fait d'améliorer les communications radio pour un homme non-voyant comme moi, c'est comme ouvrir une fenêtre sur le monde. Maintenant, après l'enfer que nous avons vécu durant l'agression de notre ville et toutes les conséquences négatives que cette guerre maudite nous a infligées, je ne pourrais pas m'acheter cette antenne sans entraîner de très gros sacrifices pour moi et ma famille. (...). Les contacts téléphoniques sont toujours très difficiles et très coûteux... Grâce à la radio, je peux communiquer avec des radioamateurs de l'ex-Yougoslavie et faire passer des messages à ma famille et à mes amis, tout en respectant les règles et les bonnes coutumes des radioamateurs. (...). Accepter un don de la main d'un ami occasionne sans doute de la joie mais aussi un peu de peine. Tout dépend des circonstances. Chaque don procure une double joie: joie de celui qui le donne et joie de celui qui le reçoit, surtout si le don est fait avec amitié et générosité, et sans humiliation, comme il s'agit, sans aucun doute, de notre cas. Cher Giovanni, chers amis d'Amnesty International que je ne connais pas, je suis très ému de votre générosité. Je vous suis très reconnaissant pour toujours et que le Bon Dieu vous bénisse tous (...). Je vous prie d'agréer mes cordiales salutations et mes meilleurs voeux. Votre radio-ami Ivo. "

Inutile de vous dire que cette lettre nous combla de bonheur ! Une fois de plus nous avions vérifié que le fait d'aider notre prochain, ne serait-ce que modestement, procure de la ,joie. Lorsque l'antenne arriva à Dubrovnik, Ivo fut immédiatement convoqué aux bureaux des douanes pour donner des explications et des justifications ... Il tremblait de peur à l'idée qu'on lui confisque cet objet précieux... Il se rendit aux bureaux des douanes accompagné par sa fille Katarina (9A4KS) et son ami Miro (aussi radioamateur)

Tous craignaient le pire ! Fort heureusement la licence de radioamateur était valable et Ivo après avoir signé une pile de formulaires et avoir navigué dans plusieurs bureaux, put rentrer chez lui débordant de joie !

Le jour suivant, Ivo dut résoudre le problème pratique de l'installation... Comment installer cette antenne relativement longue (22m) dans cette concentration de vieilles maisons tapissées de lignes téléphoniques, de fils électriques, de tuyaux d'eau, de cordes à linges tout en étant non-voyant ? Heureusement que Miro et Katarina étaient là ! L'affaire n'était vraiment pas simple... Il fallut négocier des droits de passage de l'antenne avec les voisins (pas toujours commodes), puis trouver un point de fixation (si possible assez haut...). Bref, toutes ces opérations et négociations durèrent environ une semaine. De mon côté, j'étais impatient de tester la nouvelle antenne d'Ivo. J'espérais que la différence avec le bout de fil précédant soit vraiment remarquable... Car si la différence était minime ou nulle (rien n'est jamais sûr dans le domaine des télécommunications...), les efforts fournis par nous tous auraient été vains... Sans compter la déception de notre principal intéressé. Le 27 juin 1997 à 5h30 je réglais mon récepteur sur la fréquence de 3'753 KHz... Quelques dizaines de secondes plus tard, la voix d'Ivo retentit forte et claire ! Le contact fut de bonne qualité. Le S-mètre de mon récepteur indiquait en moyenne S8 (les variations dues au QSB étaient comprises entre S7 à S9), La réception était vraiment confortable. (Avec le bout de fil, le signal était en moyenne de S6, avec des variations de S4 à S7 mais très souvent proches du niveau du bruit de fond...). La différence moyenne entre les deux antennes (comparées à Avry-sur-Matran...) était donc de l'ordre de 12 dB. Ce résultat correspond a un gain d'environ 16 fois (l'équivalent d'un bon amplificateur...). Après notre premier QSO avec la nouvelle antenne, Ivo contacta pour la première fois de sa vie une station de la Caroline du Nord (KC4VV) en BLU sur 80m. Les jours suivants Ivo effectua des contacts avec les stations de l'autre côté de l'ex-Yougoslavie et surtout avec les membres de sa famille et ses amis. Les communications avec la nouvelle antenne passaient à merveille. Mieux que le téléphone. Ivo nageait dans le bonheur !

En signe d'amitié Ivo m'a envoyé un livre dont il est l'auteur. Cet ouvrage a été imprimé par l'association des non-voyants de Croatie. Il s'agit d'un récit quotidien des événements qui se sont déroulés à Dubrovnik pendant la guerre qui a déchiré l'ex-Yougoslavie. Ce livre, écrit en Croate, s'intitule : "Le journal d'une ville assiégée ". Ivo m'a traduit quelques passages que je tiens à publier en tant que témoignage de la guerre vue par celui qui doit la subir.

Lundi 7 octobre 1991 : J'ai passé un nuit très agitée bien que les canons ne se soient pas manifestés... J'enclenche mon émetteur-récepteur VHF (dont les accumulateurs sont pratiquement déchargés) pour essayer d'écouter ce qui se passe sur le relais R0 situé sur la presqu'île de Peljesac. Ce pauvre Relais est saturé par toutes sortes d'appels humanitaires et autres, ce qui se traduit par un brouhaha infernal ! Mon ami Miro (YZ6LXA) avec son petit groupe de radioamateurs essaye de coordonner les communications sur le relais mais la tâche est impossible car les Chetnik (nationalistes Serbes) perturbent continuellement le trafic du relais en hurlant sans arrêt, comme des bêtes enragées des injures et des insanités sur les vivants et sur les morts tout en menaçant de torturer et de martyriser Miro et ses amis avant le coucher de soleil...

Miro ne se laisse pas intimider et continue à faire passer ses messages... Tout à coup on entend des coups de canon... Je saisis la main de Katarina et nous courons vers l'abri... Quelques minutes après le relais diffuse la terrible nouvelle: un obus est tombé sur un groupe de personnes près du refuge de Mokosika, il y aurait 10 morts et 20 blessés... L'attaque a duré jusque tard dans la nuit. Nous avons pu survivre un jour de plus... Nous prions le bon Dieu afin qu'il continue à nous protéger...

Lundi 24 fevrier 1992 : La paix des armes est à nouveau cassée à Dubrovnik, après avoir entendu le canon gronder dans les alentours. Mon ami Josef d'Allemagne, alerté par les mauvaises nouvelles de Yougoslavie, m'a téléphoné. Il m'a demandé si nous avions encore de quoi nous nourrir et nous a proposé de nous envoyer du café, du chocolat et toutes sortes de bonnes choses. Je suis très heureux de cet appel et de cette proposition. C'est dans de telles situations que l'on se rend compte de la valeur d'une vraie amitié.

Lundi 8 juin 1992 : Aujourd'hui je fête mon soixantième anniversaire. Sans aucun doute le plus triste de tous mes anniversaires. J'ai le sentiment d'être le gibier que les chiens du chasseur veulent entraîner vers l'enfer. A chaque instant l'explosion d'une grenade est possible. Pour le moment rien...

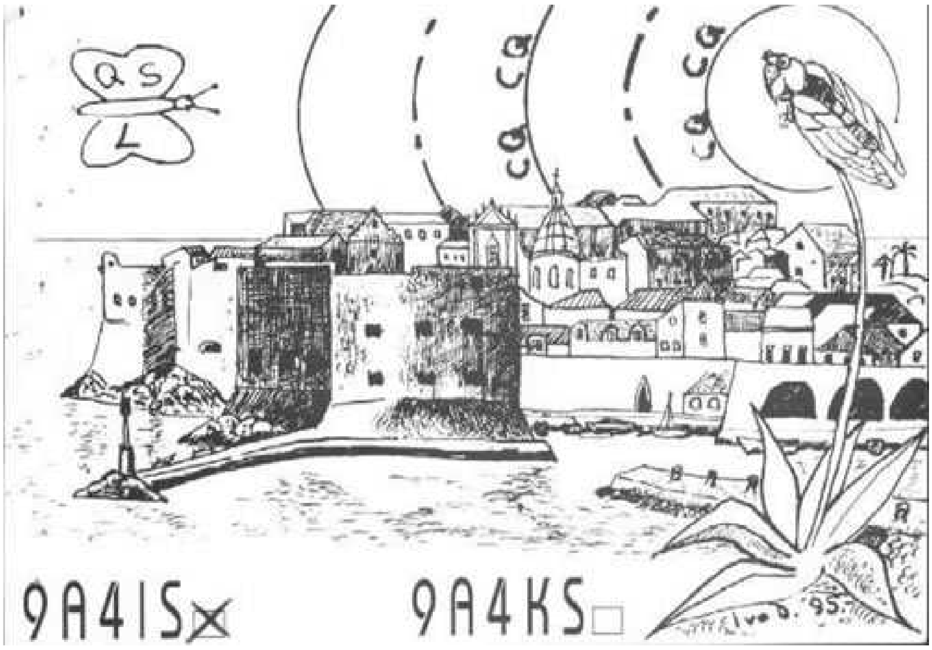
Samedi 4 juillet 1992 : Le danger est partout. Mon épouse Nevenka se rendra malgré tout en ville pour nous procurer toutes sortes de choses dont nous avons besoin. Elle profitera pour visiter quelques proches dont nous n'avons de nouvelles depuis longtemps. Je prie Dieu pour qu'il ne lui arrive rien...

Mercredi 8 juillet 1992 : Cette matinée est tranquille et nous avons pu quitter les abris. En effet, cela fait presque deux jours sans coups de canon ! Les monteurs en ont profité pour réparer sommairement le téléphone. J'ai téléphoné à la poste pour savoir si un paquet en provenance de Cologne était arrivé. On me répond que oui. Enfin une bonne nouvelle ! Katarina pleure de joie.

Je conclus en vous montrant la carte QSL de la station 9A4IS (Ivo) et 9A4KS (Katarina). Ivo et moi-même, nous nous contactons régulièrement tous les lundis et les vendredis à partir de 05h30 (heure locale) sur la fréquence de 3'753 KHz. Nous ne sommes plus seuls. En effet plusieurs autres stations de toute l'Europe viennent à ce rendez-vous de l'amitié et de la solidarité Européenne. Nous avons donc décidé de baptiser ce contact radio : *L'Euro-QSO,* Vous y êtes tous cordialement invités !

A bientôt sur **3'753 KHz**...

Giovanni, HB9HFL



La Réalisation des circuits imprimés

Par F5GPO

Nombreux sont ceux qui pensent que réaliser un circuit imprimé est difficile.
Pour ma part, je pense qu'il est plus difficile de réaliser un circuit sur les plaques à pastilles genre Véroboard.

Certes, il faut un minimum de matériel.

- une boîte à insoler
- un récipient pour le perchlorure
- un révélateur en poudre
- du perchlorure

il existe dans le commerce des kits pour réaliser la boîte à insoler et le récipient à perchlorure qui comprennent un tube chauffant et une pompe genre aquarium pour faire les bulles.
Pour ma part, je réalise le circuit en un quart d'heure environ.

- Je fais réchauffer la bouteille en verre contenant le révélateur (qui sert plusieurs fois) dans un récipient d'eau chaude (car la bouteille est stockée au frais à la cave)
- Je prépare la machine à insoler, je dépose le « Mylar », le morceau de circuit imprimé préalablement découpé à la dimension plus trois millimètres et je lance l'insolation (3mn)
- pendant ce temps je mets le révélateur dans une cuve plastique
- Je rempli le bac à perchlorure et mets en marche le tube chauffant et la pompe
- A la fin de l'insolation, je trempe le circuit dans le révélateur jusqu'à apparition nette du dessin du circuit
- Je nettoie sous l'eau le circuit imprimé avec une éponge douce pour faire partir complètement la résine restante sur les parties non imprimées
- J'essuie le circuit avec un chiffon doux et le trempe entièrement dans le perchlorure
- Je surveille périodiquement l'évolution de la gravure
- Enfin, je retire le circuit, le nettoie sous l'eau et le sèche.

Oui, mais.. me direz-vous, comment faire le mylar ???
Rien de plus simple.

Il faut un PC et un logiciel pour réaliser le circuit imprimé.

Il y a le choix et récemment la revue Elektor en a fait la synthèse, du payant au gratuit.

J'en ai essayés quelques uns, mais j'ai toujours constaté une certaine complexité décourageante.
Le but étant surtout de poser des pastilles et de les relier par des pistes, j'ai opté pour un logiciel gratuit, très simple, sans routage (il suffit d'avoir un peu de bon sens) il s'agit du logiciel TCI que l'on trouve à l'adresse suivante http://b.urbani.free.fr/pagetci/tci.htm

Très simple à utiliser et largement suffisant pour les besoins de l'OM, je l'utilise depuis de nombreuses années.

Ce logiciel a un petit frère, SDS pour faire les schémas à l'adresse suivante
http://b.urbani.free.fr/pagesds/sds.htm Vous pouvez aussi l'expérimenter.

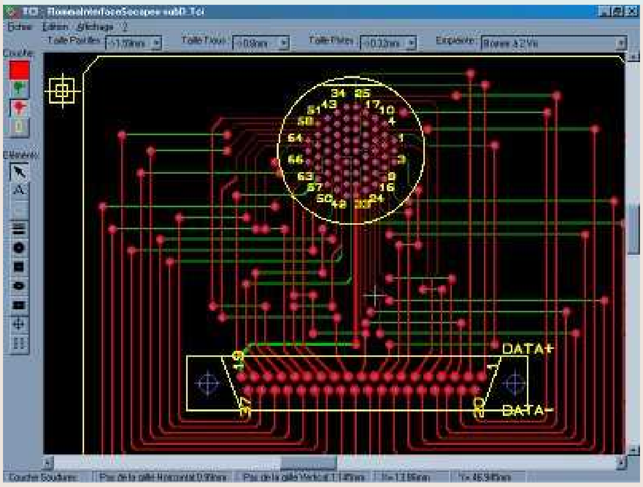
Revenons aux circuits imprimés avec la réalisation du « Mylar » qui dans la réalité est une feuille de transparent pour rétroprojecteur de chez Micro Application (publicité gratuite) ref. 5055 que l'on trouve relativement facilement.
L'impression est faite à partir d'une imprimante jet d'encre en précisant au logiciel de l'imprimante le type de feuille utilisé « transparent ».

Personnellement j'utilise une Canon IP4000 en mode qualité normal.

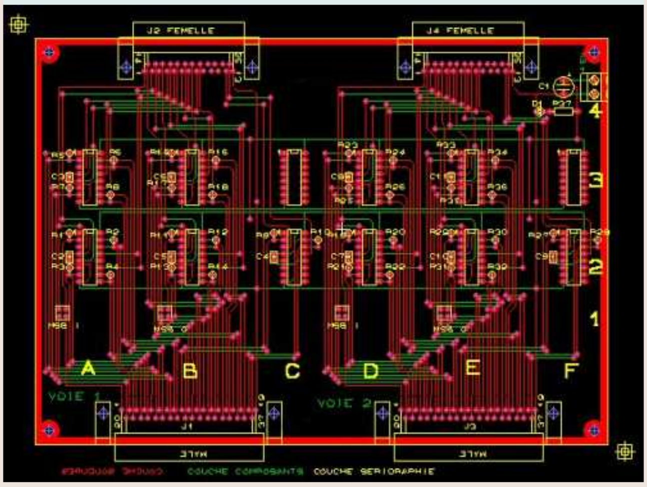
Je reste à la disposition de tous pour plus de renseignements, par courriel, f5gpo@free.fr

73's Gilles F5GPO

LOGICIEL TCI



EXEMPLE DE CIRCUIT



Info : pylones-dekerf@skynet.be

1966 - 2008
42 Ans

PYLONES DE KERF

Tél: Français - F - (00) 32 71 31 64 06
Tél: Anglais - GB - ( ) 32 / 37 74 14 03
Tél: Allemand - D - ( ) 32 / 37 74 14 03
Tél: Néerlandais - NL - ( ) 32 / 37 74 14 03

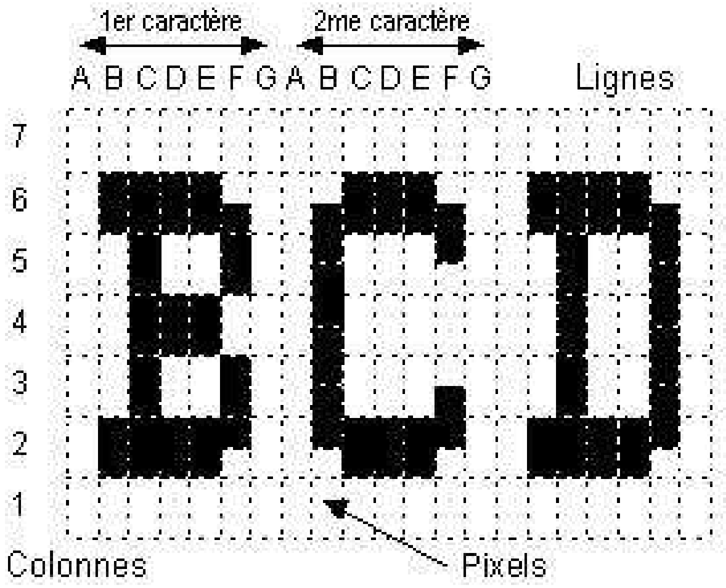
TRAFIC EN MODES NUMERIQUES

Le mode Hellschreiber

Par F1AGW

1) Généralités

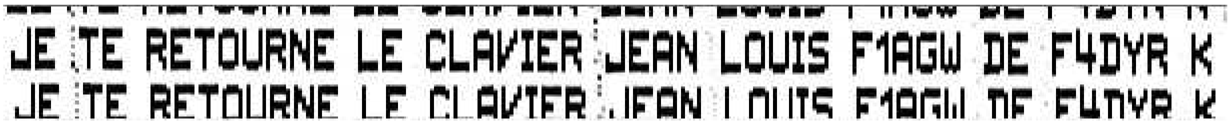
Le HELL ou Hellschreiber a été conçu et développé par Rudolf HELL en 1927 et dédié a l'origine pour de la transmission de texte sur réseau filaire.
A l'inverse des modes digitaux actuels, le Hell n'est pas codé, les caractères sont transmis séquentiellement comme les caractères d'une imprimante a aiguille : l'ordre de transmission des pixels est A1, A2, A3….A7 puis B1, B2, B3 … B7 etc.. (Figure ci-dessous)



La modulation se fait en tout ou rien. Un pixel noir correspond a une modulation a 980 Hz un pixel blanc pas de modulation.
Un caractère est composé d'une matrice de 49 pixels (de A1 a G7) et dure 400mS
La vitesse est de 122,5 baud et le débit de 2,5 caractères/sec.

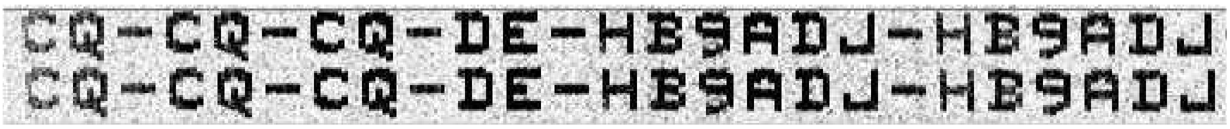
2) Exemples de réception Hell

Ci dessous un exemple de réception de F4DYR sur 144 MHz (département 41) report 55



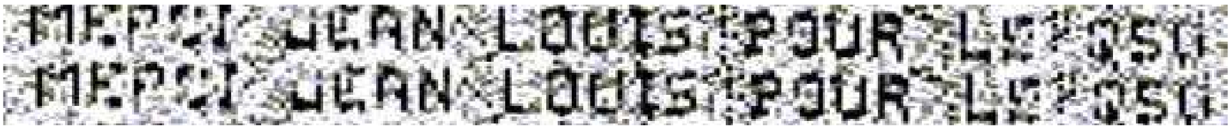
JE TE RETOURNE LE CLAVIER JEAN LOUIS F1AGW DE F4DYR K

Un QSO avec HB9ADJ sur 144 MHz report 51



CQ-CQ-CQ-DE-HB9ADJ-HB9ADJ

Un dernier QSO avec F4DXX sur 144 MHz (département 49) report 31



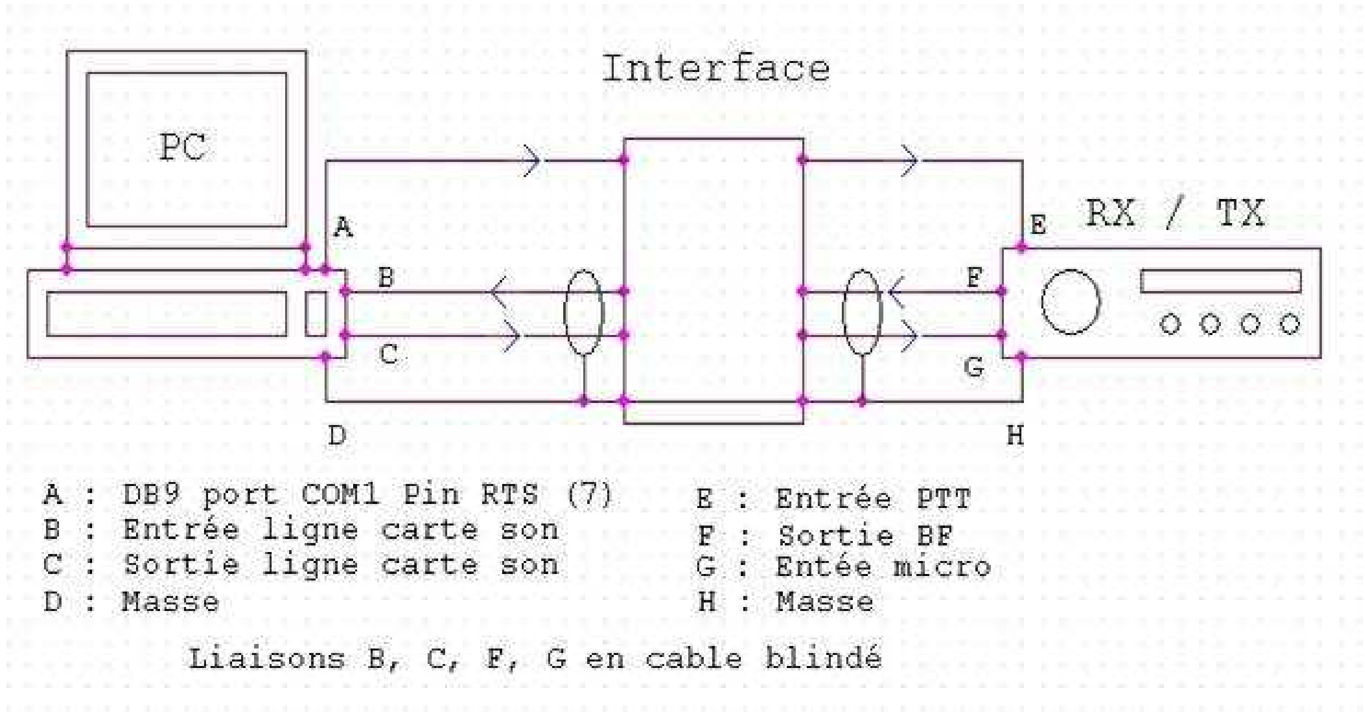
MERCI JEAN LOUIS POUR LE QSO

Le caractère n'étant pas codé, même si avec du QRM et du QSB il est altéré le cerveau reconstitue les parties manquantes et le texte reste décodable.

3) Ou écouter le Hell

Bande	Début	Fin
3.5 MHz	3580 KHz	3590 KHz
7 MHz	7035 KHz	7045 KHz
10 MHz	10140 KHz	10150 KHz
14 MHz	14070 KHz	14099 KHz
18 MHz	18100 KHz	18109 KHz
21 MHz	21080 KHz	21120 KHz
24 MHz	24920 KHz	24929 KHz
28 MHz	28050 KHz	28150 KHz
144 MHz	144.138 MHz	

4) Synoptique de raccordement

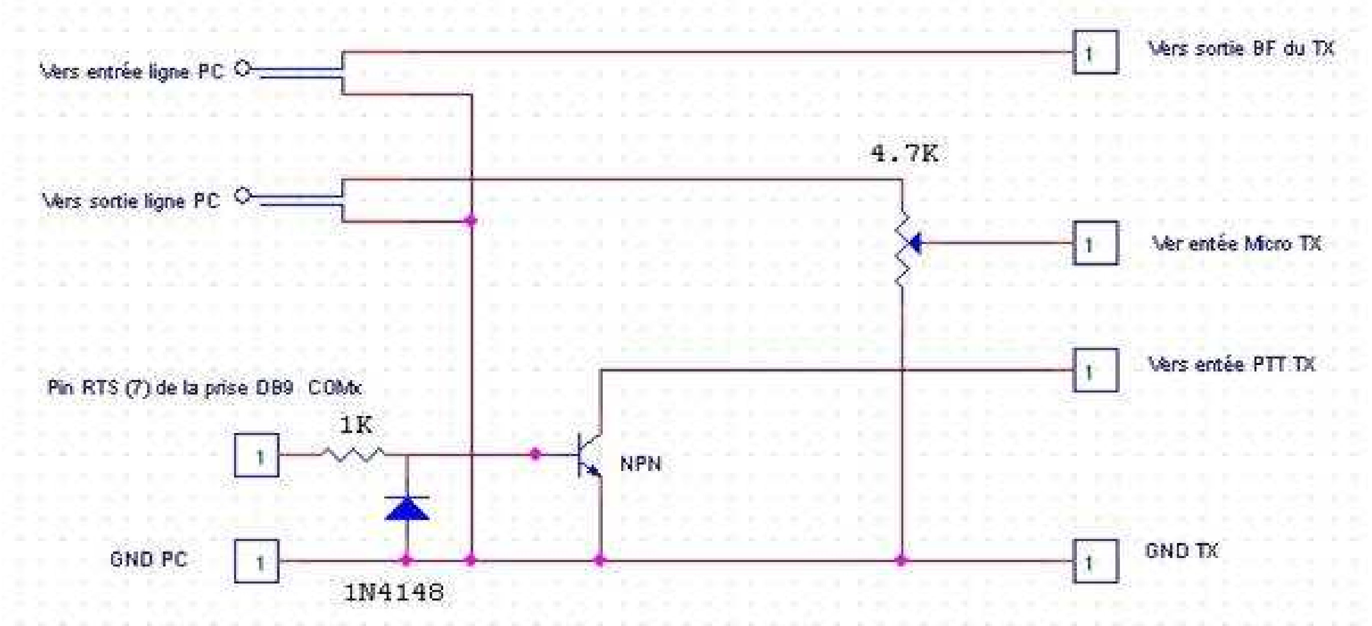

Interface
PC
RX / TX
A
B
C
D
E
F
G
H
A : DB9 port COM1 Pin RTS (7)
B : Entrée ligne carte son
C : Sortie ligne carte son
D : Masse
E : Entrée PTT
F : Sortie BF
G : Entée micro
H : Masse
Liaisons B, C, F, G en cable blindé

5) Comment recevoir le Hell

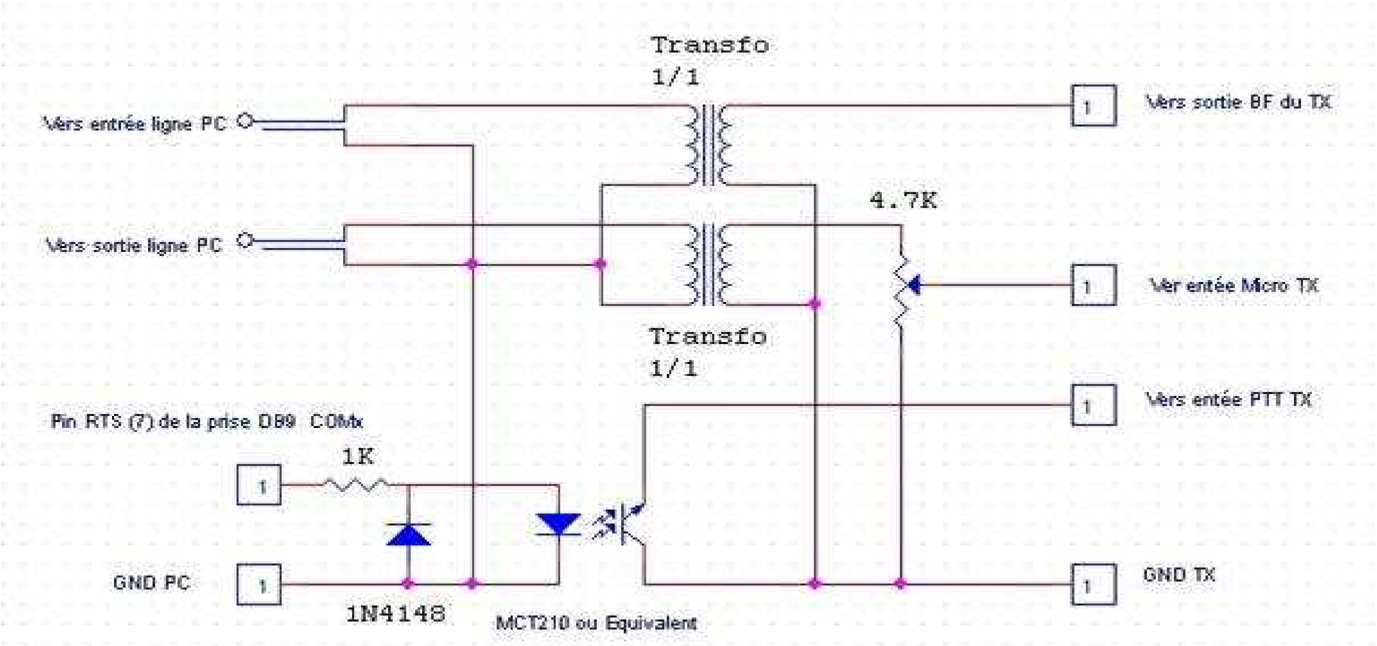
Que faut-il pour trafiquer en Hell :
- Naturellement un émetteur/récepteur,
- Un Ordinateur avec carte son,
- Une interface RX/TX vers PC (de type SSTV ou PSK31)
- Un logiciel de réception Hell

6) L'interface PC/TX-RX

L'interface la plus simple mais qui nécessite une bonne mise a la masse commune du TX et du PC



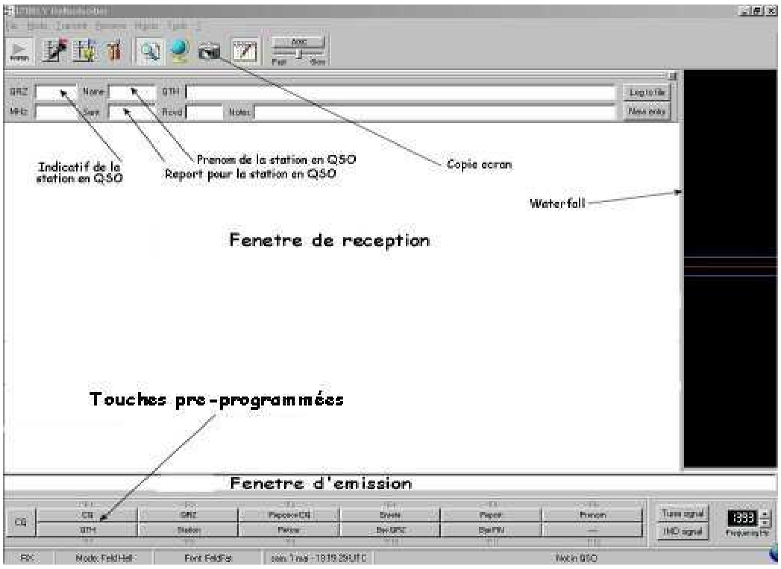
La même interface avec isolation galvanique



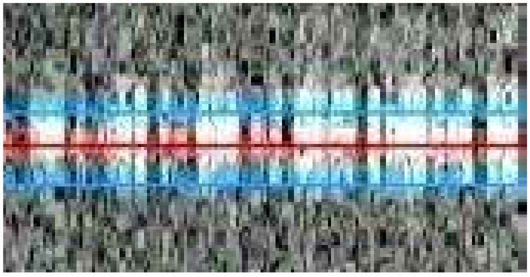
7) Le logiciel

Il existe plusieurs logiciels permettant de trafiquer en mode Hell. Les plus utilisés sont :
- MixW32 (shareware) un multi modes décodant également le PSK le MT63 le Throb le MFSK etc.
- Multipsk logiciel gratuit de F6CTE également un multimode sur son site http://members.aol.com/f6cte/
- Hellschreiber de IZ8BLY autre logiciel gratuit a télécharger sur le site de Nino Porcino http://www.geocities.com/iz8bly .

C'est ce dernier que j'utilise de préférence, en voir page suivante l'écran principal :



Pour configurer le programme allez dans "Files" puis "Préférences"
Dans l'onglet "Général" entrez votre indicatif dans " Callsign "
Cochez "detect slow typing" et "force uppercase letters".
Dans l'onglet "PTT" sélectionnez le port com utilisé pour la commande PTT
A ce stade vous pouvez recevoir une émission Hell. Dès qu'un signal est audible, il apparaît a droite de l'écran dans le "Watefall" sous forme d'un trait blanc de 3 a 4 millimètres.
A l'aide de la souris, cliquez au centre de ce trait, un trait rouge doit s'y positionner et l'affichage doit commencer. Pour passer en émission, cliquez dans la fenêtre d'émission (1 ligne) se trouvant sous la fenêtre de réception et commencez a taper votre texte. Au premier espace tapé le logiciel commande le passage en émission et le buffer d'une ligne se vide caractère par caractère.Taper la touche "Entrée" pour envoyer le dernier mot du buffer et repasser en réception. Un autre mode peut être utilisé qui permet de préparer le texte a envoyer pendant la réception d'un message. Il suffit pour cela de commencer le texte par le caractère " * " l'étoile.Pour passer en émission et vider le buffer appuyer sur la touche "Entrée".



Vous pouvez également préparer des messages types comme le CQ, le QRZ ou la description de votre station. 12 touches en bas de l'écran sont programmables. Pour cela cliquez sur une des touches avec le bouton droit de la souris.

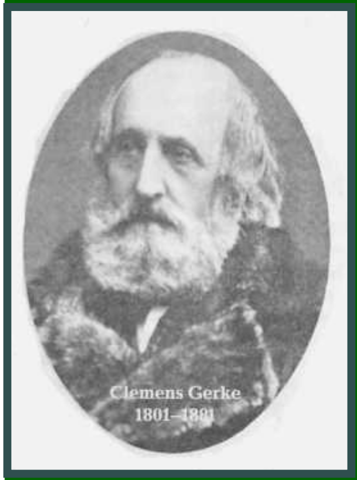
1) - Dans la case " Text to send " entrez un message soit en clair soit en utilisant des métacommandes, par exemple votre call : "$QRZ" le call de votre correspondant : "$OTHER" (c'est le call que vous avez entré dans la fenêtre QRZ), le prénom de votre correspondant :
"$OTHERNAME" (c'est le prénom que vous avez entré dans la fenêtre " Name "), ou son report : "$RST" (c'est le report que vous avez entré dans la case "Sent".)
Par exemple pour la réponse a un appel :
"$OTHER $OTHER de $QRZ $QRZ $QRZ Dpt 93 JN18GU JN18GU Pse KKK "
Ou pour envoyer le report a votre correspondant :
"Votre report $RST $RST $RST"

2) - Dans la case "Button label" tapez le nom qui apparaîtra sur le bouton. Il existe une trentaine de métacommandes que vous pouvez consulter dans le fichier d'aide "?" (la version 4.0 a même un fichier d'aide en Français).
Quelque recommandations :
- Dans "Files" puis "Load font" sélectionnez la police "FeldFat" taille "11" car les caractères sont plus gros et en gras.
- L'icône "snapshots" (appareil photo) fait une copie écran qu'il sauvegarde dans le répertoire snapshots de Hellschreiber. Très utile pour garder une trace d'un QSO.
- Afin d'afficher le texte reçu horizontalement, réglez son inclinaison dans "Tools" puis "Slant correction mode". Voir la procédure dans l'aide.

A bientôt en Hell - 73's de Jean-louis F1AGW

HISTOIRE par F4ABV

Qui fut Clemens Gerke ?



On a fêté le 200ème aniversaire de sa naissance le 22 janvier 2001. La plupart des Radio-Amateurs ont un point commun avec lui sans le savoir.
Clemens Friedrich Gerke est le réformateur du système de télégraphie « Morse »

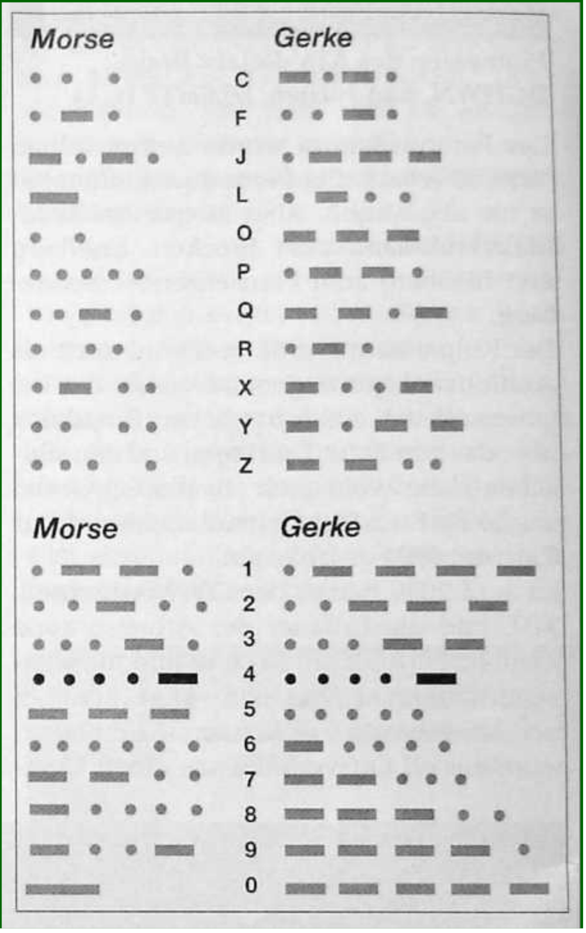
Depuis 1851, des générations de « radios » apprennent son alphabet télégraphique. Gerke écarta les anciens signes de Morse qui posaient problème. Dans l'ensemble, 11 lettres et 9 chiffres. Il les modifia ou en créa de nouveaux.
L'ancien système de Morse en usage à l'époque avait des signes de longueur variable ce qui occasionnait des fautes et rendait l'apprentissage difficile. La moité des signes d'origine Morse ont été conservés. Les bases du système de Gerke sont qu'un signe long dure le temps de trois signes courts et que chaque signe est unique. L'espace entre les mots fut revu également.

Gerke était depuis plusieurs années inspecteur du télégraphe optique de la ligne Hamburg/Cuxhaven, il connaissait les avantages du système électrique et « électrifia » » cette ligne qui servait pour les liaisons avec les bateaux.
Gerke proposa ses services à l'armée anglaise et habita quelques années au Canada. Après trois ans, il racheta son engagement et revint à Hamburg. C'est à cette période qu'il mit à profit son exellente connaissance de la langue anglaise pour traduire des ouvrages techniques traitant de la télégraphie.
En 1850 on ne pouvait vivre uniquement de ce travail, il tavailla donc aussi aux transmissions télégraphiques et c'est là qu'il transforma l'ancien alphabet Morse en sa forme actuelle. Ce code réformé fut rapidement adopté par les instances de communications européennes. Plus tard, à un congrés à Paris, il fut proposé pour une utilisation internationnale.

Gerke meurt à Hamburg en 1888.
La grande tour de communications de Cuxhaven porte son nom et se strouve à proximité de sa ville fétiche.

Traduction résumée d'un article paru dans la revue CQDL sous la plume de DL8HCI

73's de F4ABV



Morse		Gerke
• • •	C	▬ • ▬ •
• ▬ •	F	• • ▬ •
▬ • ▬ •	J	• ▬ ▬ ▬
▬▬	L	• ▬ • •
• •	O	▬ ▬ ▬
• • • • •	P	• ▬ ▬ •
• • ▬ •	Q	▬ ▬ • ▬
• • •	R	• ▬ •
• ▬ • •	X	▬ • • ▬
• • • •	Y	▬ • ▬ ▬
• • • •	Z	▬ ▬ • •
Morse		Gerke
• ▬ ▬ •	1	• ▬ ▬ ▬ ▬
• • ▬ • •	2	• • ▬ ▬ ▬
• • • ▬ •	3	• • • ▬ ▬
• • • • ▬	4	• • • • ▬
▬ ▬ ▬	5	• • • • •
• • • • • •	6	▬ • • • •
▬ ▬ • •	7	▬ ▬ • • •
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▬▬	0	▬ ▬ ▬ ▬ ▬

L'O.M. de la semaine F4DHS, Richard

bonjour à tous.
Je me présente, je m'apelle Richard, j'ai 48 ans et je suis pâtissier de profession.

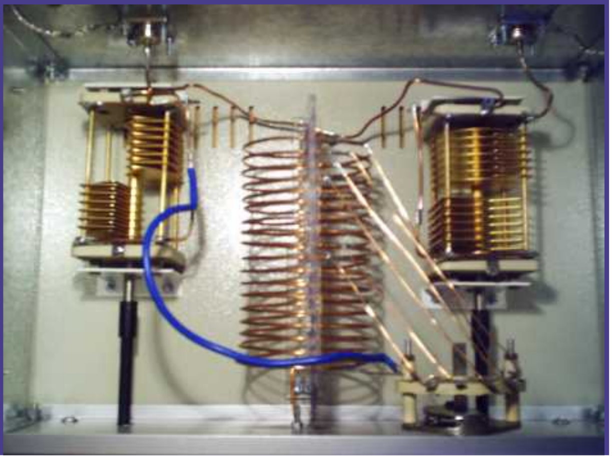
J'ai connu la radio comme beaucoup de radioamateurs par le biais de la Citizen Band, étant passionné par la radio, j'ai passé mon excamen pour la classe 3 en 2001.
Ensuite, la classe 2 en 2005 et je suis donc F4DHS. Je tiens à remercier le club de Taverny F5KES et le club de Vauréal F8KGB pour les cours prodigués.

Mon activité principale est le trafic DX, la chasse aux QSL, le DXCC et les concours HF.
Mon activité secondaire est la fabrication d'antenne en tous genre filaires, verticales et aussi boite d'accord tirée du site de F6BPO que je tiens à remercier pour sa gentillesse, toujours prêt à renseigner les OM, lorsqu'ils ont un problème (photo ci-dessous : boîte d'accord de 3.5 mhz à 30mhz fabrication maison).
Mon matériel est le suivant : un Yaesu FT 450 associé à un micro de chez Heil le HM 10, pastilles hc5 et hc4.
Pour le QRP un yaesu ft 817. Et pour le côté "Vintage" un Sommerkamp FT 307 associé à un micro yaesu md1b8
mon antenne est une verticale de chez Fritzel la GPA 30, et une antenne filaire fabrication OM pour le 80m.

Mon meilleur souvenir : contacter l'opérateur radio du navire cablier de France télécom en pleine mer Egée, pendant son temps libre.

Le radioamateurisme m'apporte beaucoup de choses comme parler avec nombre d'OM, écouter les anciens et leurs conseils.

Amitiés à tous de F4DHS, Richard.



Les infos DX

F5IRO

3DA - Swaziland - ZS6AVM sera 3DA0VM jusqu'au 23 Novembre. En SSB du 40 au 10m. QSL via home call, direct seulement.

3D2 - 3D2YA Ile Mana (OC-121) du 21 au 27 novembre

3X - 3X5A Guinée du 29 au 30 novembre

5R - Sainte Marie (AF-090) - Eric, F6ICX sera 5R8IC du 18 Novembre au 14 Décembre en CW du 30 au 10 m. QSL via home call.

8Q - 8Q7SC du 25 novembre au 10 décembre

9M - 9M2MRS **Ile Penang** (AS-015) du 17 novembre au 06 février 2009

9J - 9J3A du 22 novembre au 02 décembre

A5 – des membres du clipperton dx seront A5100A jusqu'au 25 novembre

CE9 - CE9/CE3VPM Shetlands sud (Frei Montalva Base) jusqu'à fin novembre

EA8 - EA8/ON5JV et EA8/ON6AK (AF-004) du 22 novembre au 03 février 2009

EY - EY8/F4EGS jusqu'au 26 novembre

F - Radio Club de Fagnes (F5KDB) sera TM90AA jusqu'au 21 Novembre. QSL via F5SPW (bureau) ou F4FIU (direct).

FT5 - F4EGX sera FT5YI depuis la base «Dumont d'Urville », IOTA AN-017, de Novembre à mi-décembre QSL via home call.

G - call spécial GB617SQN jusqu'au 27 Novembre (QSL via 2E0PRD, direct ou bureau)

G - G3LIK sera GB4RN (GB4 Royal Navy) jusqu'au 23 Novembre

HC - HC2/SM6FKF, HC2/SM6LJU, HC2/SM7BUA et HC2/SM7NDX du 25 au 30 novembre

HK0 - AA7JV, HA7RY, HA8MT et HK3JJH seront 5J0T et HK0/HK3JJH de Roncador Bank (NA-133) du 18 au 21 Novembre et de Bajo Nuevo (NA-132) entre le 23 Novembre et le 2 Décembre. L'entité DX pour ces îles est San Andres. Ils participeront au CQ WW CW.
QSL 5J0T via HA7RY (direct ou bureau), QSL HK0/HK3JJH via home call (direct ou bureau).

I - call spécial II1ADV jusqu'au 19 Novembre. QSL via IW1RLR, direct ou bureau

I – call spécial II20CJ jusqu'au 30 novembre

I - IW9GUR, IW9HLM, IW9HQP IT9RKR IT9GCG seront ID9/home call de **l'île Salin** (EU-017, IIA ME-015) du 21 au 23 Novembre. QSL via home calls en direct

J49 - J49I Crête (EU-015) du 26 novembre au 01 décembre

JA - JA7GAX/6: Iles Daito (AS-047) jusqu'au 20 novembre

J3 - Grenade (NA-024) DL7CM DM2AYO seront J3/DL7CM et J3/DM2AYO jusqu' au 25 Novembre. QSL via home calls

OD – ON4JM sera OD/ON4JM jusqu'à fin décembre, QSL via home call

ON – call spécial ON55INR jusqu'au 31 Décembre. QSL via bureau

OP – ON5XX sera OP0DL en antarctique depuis Patriot Hill vers le 25 décembre, QSL via home call

SP - Indicatifs spéciaux du 3 au 23 Novembre: 3Z1918PR, 3Z2008PR, 3Z90PR, HF1918PR, HF2008PR, HF90PR, SN1918PR, SN2008PR, SN90PR, SO1918PR, SO2008PR, SO90PR, SP1918PR, SP2008PR, SP90PR, SQ1918PR, SQ2008PR et SQ90PR.

T31 - T31DX jusqu'au 30 novembre

TO – TO3R île de la Réunion (AF-016) du 25 novembre au 06 décembre

TT - TT8JT jusqu'au 18 novembre

VE – Calls spéciaux, CJ, CY, CZ jusqu'au 30 novembre

V2 - V26K Antigua (NA-100) du 26 novembre au 01 décembre

V8 - Brunei - G3YBY sera V8FKT jusqu' au 21 Novembre. QSL via home call.

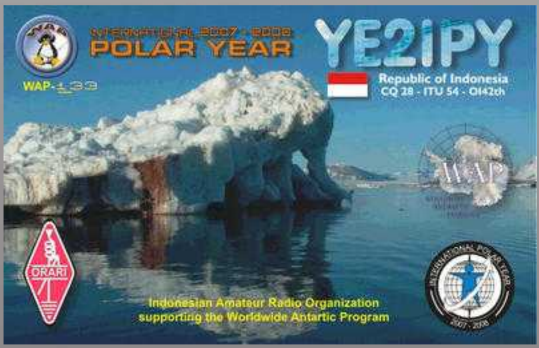
VP9 - Bermudes (NA-005) - OH3SR sera OH3SR/VP9 du 25 Novembre au 2 Décembre. Il participera au CQ WW CW. QSL via home call

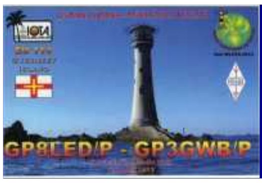
VK0 - VK2ABP est VK0BP depuis la base Davis jusqu'au 7mars. QSL via VK2CA.

XU - XV4BX Ile Phu Quoc (AS-128) du 22 au 30 novembre

YE – call spécial YE2IPY actif.

YL – Call spécial – les radioamateurs de ce pays sont autorisés à utiliser le préfixe YL90 durant le mois de novembre





IOTA INFO
Par ON3MAJ

Les îles de la Méditerranée

ME-001	ILE DU FORT BRESCOU	EU-148
ME-002	ILE D'ARAGNON	-
ME-003	ILE DE RATONNEAU	EU-095
ME-004	ILE DU PLANIER	EU-095
ME-005	ILE DE MAIRE	-
ME-006	ILE DE RIOU	EU-095
ME-007	ILE VERTE	EU-095
ME-008	ILE DE BENDOR	-
ME-009	ILE DES EMBIEZ	EU-095
ME-010	ILE DE PORQUEROLLES	EU-070
ME-011	ILE DE PORT-CROS	EU-070
ME-012	ILE DU LEVANT	EU-070
ME-013	ILE D'OR	EU-095
ME-014	ILE DE ST-HONORAS	EU-058
ME-015	ILE DU GRAND GAOU	-
ME-016	ILE DE POMEGUES	EU-095
ME-017	ILE DU GD ROUVEAU	EU-095
ME-018	ILE DES VIEILLES	-
ME-019	ILE DU LION DE MER	EU-095
ME-020	ILE ST-MARGUERITE	EU-058
ME-021	ILE DE L'ESTAGNOL	-
ME-022	ILE DE LEOUBE	-
ME-023	ILE DE L'ELEVINE	-
ME-024	ILE D'ENDOUME DU LARGE	-
ME-025	ILE DE LA MELETTE	-
ME-026	ILE DE LA FAUVETTE	EU-095
ME-027	ILOT TIBOULEN	EU-095
ME-028	ILE D'IF	EU-095
ME-029	ILE DE TIBOULEN	EU-095
ME-030	ILE DE JARRE	EU-095
ME-031	ILE DE JARRON	EU-095
ME-032	ILE DE MOYADE	EU-095
ME-033	ILE PETIT CONGLOUE	EU-095
ME-034	ILE GRAND CONGLOUE	EU-095
ME-035	ILE CALSERAIGNE/PLANE	EU-095
ME-036	ILE ROUSSE	-
ME-037	ILE DU PETIT ROUVEAU	EU-095
ME-038	ILE DES FOURMIQUES	-
ME-039	ILE DE LA REDONNE	-
ME-040	ILE LONGUE	-
ME-041	ILE RATONNIERE	-
ME-042	ILE PELLEGRIN / JARDIN	-
ME-043	ILE DU LION DE TERRE	-
ME-044	ILE DU GRAND RIBAUD	EU-070
ME-045	ILE DU PETIT RIBAUD	EU-070
ME-046	ILE DU RIBAUDON	-
ME-047	ILE DU PT LANGOUSTIER	EU-070
ME-048	ILE DU GR. SARRANIER	EU-070
ME-049	ILE DU PT SARRANIER	EU-070
ME-050	ILE DE BAGAUD	EU-070
ME-051	ILE DE LA GABINIERE	EU-070
ME-052	ILE DE LA TRADELIERE	EU-058
ME-053	ILE DE ST-FEREOL	EU-058
ME-054	ILE DE L'ILOT	EU-058
ME-055	ILE DE POINTE ROUSSET	EU-070
ME-056	ILE DES DEUX FRERES	-
ME-057	ILE DU PETIT GAOU	-
ME-058	ILE D'ENDOUME DE TERRE	-
ME-059	ILE CHRISTAOU	-
ME-060	ILE DU PORTUGAIS	-
ME-061	ILE DES RASCAS	EU-070

Denière minute...

Bonjour à tous, Je me permets de vous donner des nouvelles de Nicolas FT1YI depuis la base de DUMONT D'URVILLE où il est actif selon ses libertés. 73 de FR5CY Jean Paul.

Je suis donc actif à Dumont d'Urville sur plus ou moins 14.200MHz à 250 (plutôt vers 14.2100). FT857 avec 100W. J'ai installé la delta loop 20m comme j'ai pu. Je me trouve seul dans le centre d'émission de la base, chauffé à 12°C.
je suis actif vers 7H00 TU, 17H00 local DDU. Quelques QRM de chaufferettes. mais ça ne dure qu'une dizaine de secondes. La bande est très calme. J'ai contacté pas mal d'australiens et de néo-zélandais, un américain et un japonais. J'ai entendu plein de Japonais (un peu sourds... sûrement du QRM local) et un indien très puissant. Pas d'européens... Mais je sais que les japonais contactent pas mal d'italiens.
http://f4egx.homelinux.net 73's de Nicolas FT5YI (QSL via F4EGX bureau)

Adaptation de l’Interface EN.1487 pour le FT-847

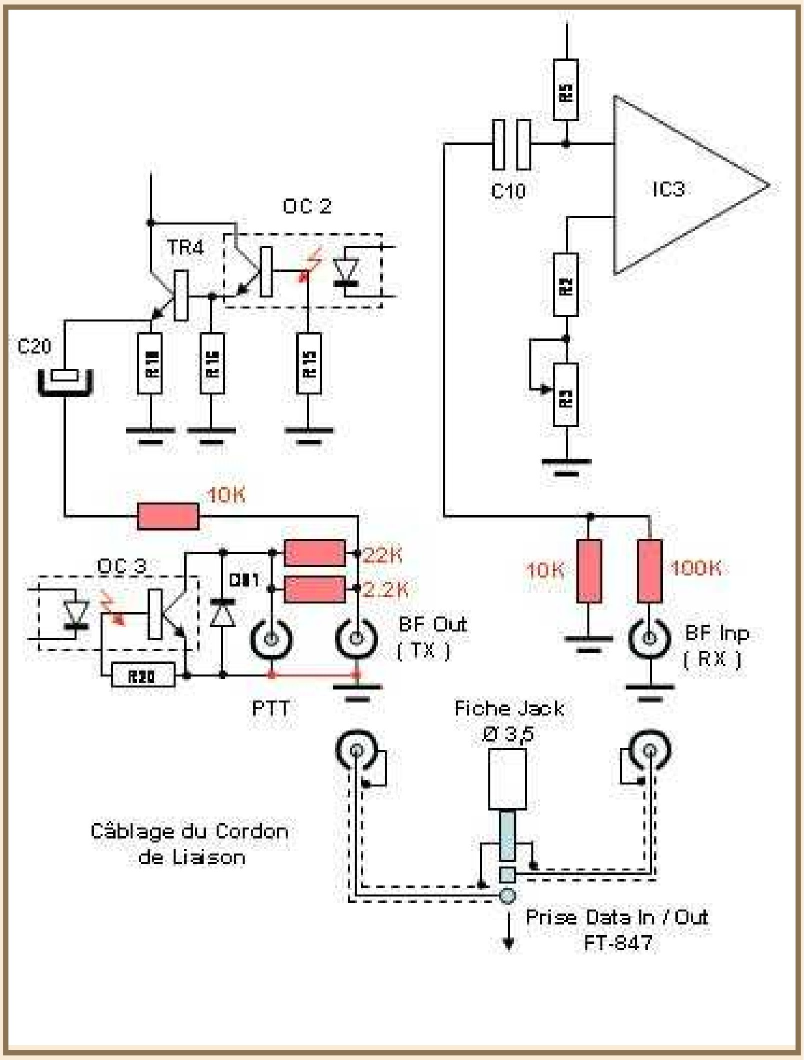
Par F1DOI

L’interface EN/LX.1487 distribué par Comelec, est fait pour se connecter en lieu et place du Micro d’un TRX. Le FT-847, comme certainement bon nombre d’autres Transceivers modernes, possède un connecteur « DATA IN/OUT » sur la plaque arrière du coffret aux cotés des connecteurs d’antennes, etc.

Je ne reviendrai pas sur l’avantage d’utiliser ce type d’interface entre le PC et le TRX, et dont le but est simplement d’isoler électriquement les deux éléments et d’éviter ainsi de sérieux déboires coté PC (destruction de la carte son par exemple !!)

L’avantage d’utiliser cette connexion est double : Elle évite de déconnecter le Micro lorsque l’on veut trafiquer en mode digital (PSK, RTTY, SSTV, etc..) et elle permet, en fin d’émission digitale de prendre instantanément le micro et de saluer la station correspondante, particulièrement en SSTV, c’est assez sympathique et pour ma part, je le pratique très souvent.
Sur le FT-847, le fonctionnement de cette Entrée/Sortie est un peu particulier. Il s’agit d’un Jack stéréo de 3,5 mm avec entrée (TX) sur la broche centrale et la sortie (RX) sur l’anneau. La masse étant commune. Le passage en émission se fait en abaissant l’impédance de l’entrée TX de 10K à 2KΩ.

L’adaptation est faite Directement à l’intérieur du boîtier de l’interface. Sur le schéma, les résistances ombrées sont ajoutées. La résistance de 10K reliée entre C20 et la prise cinch « BF Out » a pour but d’adapter l’impédance de la sortie de l’interface avec celle du Transceiver.
Les résistances de 22K et 2,2K en parallèle (résultante 2KΩ) sont reliées entre a sortie « BF Out » et la prise «PTT» de l’interface.
Attention , il faut aussi relier les masses de deux prises cinch «BF Out» et «PTT», qui sont indépendantes sur le schéma de l’interface. Ainsi, lorsque le signal « Emission » sera transmis via le port COM1 du PC sur l’interface, l’impédance de l’entrée du TX passera bien de 10K à 2KΩ et tout cela pendant la phase d’émission. Le mode «DATA» s’affiche alors sur l’afficheur du transceiver.
Pour la partie «Réception» un atténuateur est constitué de résistances de 100K et 10KΩ



Voilà, c'est tout, il ne reste plus ensuite qu'à effectuer les réglages de la carte son (Niveaux d'enregistrement et lecture) pour commencer le Trafic.

Attention aussi à réduire la puissance du TX en mode Numérique, car certains PA risquent de ne pas apprécier de tourner au maximum de puissance pendant une longue période ! Nous ne sommes plus en SSB. En numérique je n'utilise que 50% de la puissance maxi du TX, c'est-à-dire 50W

Pour ma part, j'utilise cette interface modifiée depuis 3 mois sans aucun problème, Pour information, les logiciels utilisés à la station en modes numériques sont les suivants :

MMSSTV 1.11 pour la SSTV (DX's Ile Rodrigue 3B9FR, et le Japon JA5TFF avec 50W)

MixW 2.18, dont j'ai acquis une licence (50 Euros), il faut bien participer un peu aux développements que certains OM font pour nous !
Ce dernier logiciel couvre à peu près tous les besoins d'émission/réception en modes Numériques (PSK31, RTTY, CW, PACKET, SSTV , Etc.). Cependant, en SSTV je préfère de loin MMSSTV qui est beaucoup plus convivial. Pour tous les autres modes j'utilise exclusivement MixW 2.12. Un des avantages est de pouvoir écrire des « Macros » qui peuvent être communes à plusieurs modes (Exemple RTTY & PSK) De plus, il a aussi un genre de carnet de Trafic automatique qui peut aussi communiquer (via format ADIF) avec les autres logiciels de carnets de Trafic.

J'ai fini mon bavardage, je vous souhaite bon trafic en mode numérique, mais n'oubliez pas aussi le Micro, c'est aussi super sympa d'échanger quelques mots entre OM's

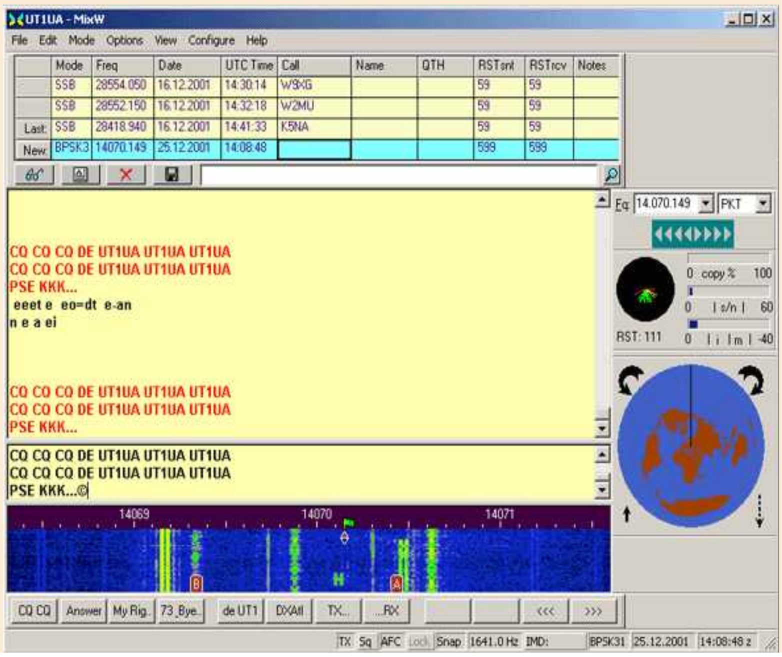
Pour Info, Publicité gratuite !!
L'interface EN 1487 dont il est question ici est disponible en Kit complet, boîtier compris, chez Comelec au prix de 67 Euros, ce kit est basé sur 2 amplis OP et 3 Opto coupleurs qui isolent parfaitement les deux éléments. Il est livré avec le logiciel WinPSK 2.09 sur disquette. Adresse internet :

http://www.comelec.fr => rubrique Hautes Fréquences.

De plus, il a été décrit complètement dans le N°29 d'ELECTRONIQUE Magazine.

Dernière remarque : le connecteur DATA IN / OUT du FT-847 ne fonctionne qu'en SSB, si vous voulez faire de SSTV en FM sur 144 MHz, il faut passer par la prise Micro.

Bonne Réalisation et bon trafic
F1DOI / Michel



	Mode	Freq	Date	UTC Time	Call	Name	QTH	RSTsnt	RSTrcv	Notes
	SSB	28554.050	16.12.2001	14:30:14	W9XG			59	59	
	SSB	28552.150	16.12.2001	14:32:18	W2MU			59	59	
Last:	SSB	28418.940	16.12.2001	14:41:33	K5NA			59	59	
New:	BPSK3	14070.149	25.12.2001	14:08:48				599	599	

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PSE KKK...
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PSE KKK...©
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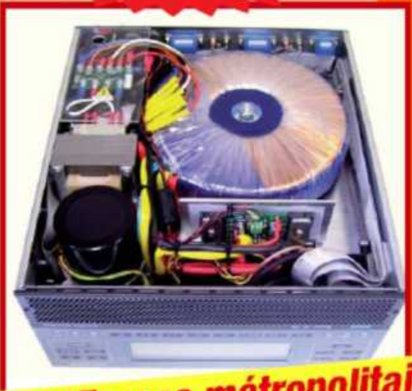

Franco de port France métropolitaine pour les commandes passées en octobre !

★Prix indicatif ; prix magasin et offres promotionnelles, nous consulter. Photos non contractuelles. Publicité valable pour le mois de parution. Prix exprimés en euros. Sauf erreur typographique.

0908_HEIL

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Nouvelles de l'espace

Par F1OK

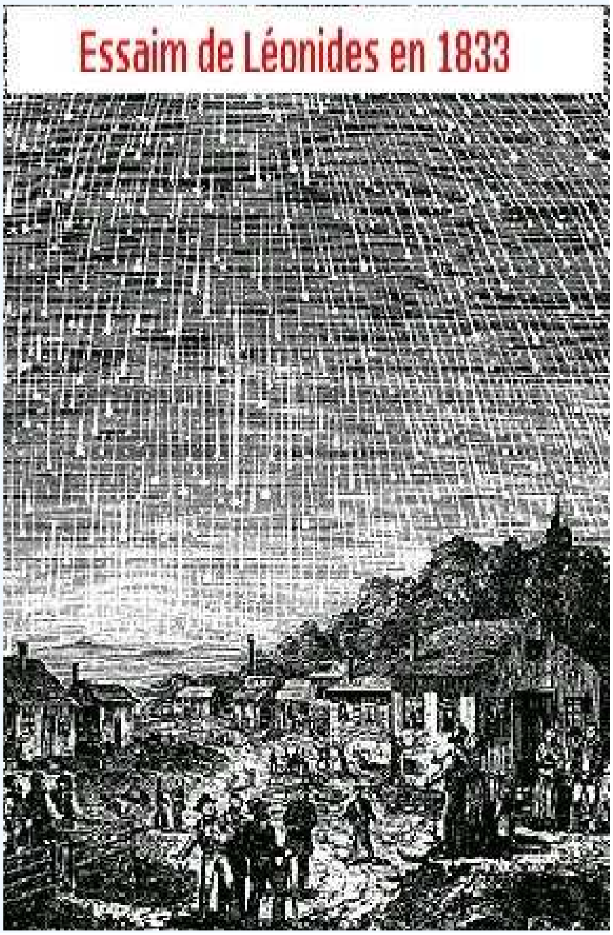
LES LEONIDES 2008

=================

Comme chaque année, en novembre, l'arrivée des LEONIDES, un essaim de météorites laissées par la comète Tempel-Turtle est attendue par beaucoup de radioamateurs. Ils espèrent en profiter pour réaliser des contacts radio par réflexion sur les trainées ionisées créées par ces poussières d'étoiles lorsqu'elles traversent la haute atmosphère vers 100 kilomètres d'altitude. Le cru 2008 ne devrait pas etre trop mauvais. Si les prévisions s'avèrent justes, l'Europe ne sera pas trop mal servie. Le pic d'activité est prévu dans la nuit du 16 au 17 novembre. Toutefois, comme ces prévisions sont loin d'avoir une grande précision, il est conseillé de veiller du 16 au 18 novembre.

Celui qui ne veut absolument rater le passage 2008 aura tout intéret à utiliser un logiciel spécialisé se chargeant de détecter le passage de météores. Le principe consiste écouter 24 heure/24 la fréqence d'un émetteur lointain (600 à 1500 km) émettant avec une puissnce suffisante dans la bande 50-110 mhz (par exemple un émetteur TV ou une station FM). Quand une météorite traverse le ciel le signal radio se réfléchit sur la trainée. Il peut etre détecté et déclencher une alarme pour vous prévenir. Ce système qui était utlisé il y a une dizaine d'années par divers radioamateurs a été depuis largment amélioré grâce à la généralisation des micro-ordinateurs et des nombreux logiciels automatisant l'enregistrement comme par exemple SPECTRUMLAB ou HROFFT .

Les passages de cette année devrait être moins intenses que ceux des années précédentes car les poussières laissées par le passage de la comète Tempel-Turtle se dispersent petit à petit d'années en années. C'est en 1998 que cette comète est passée au plus près du soleil et le prochain passage n'aura lieu que dans 33 ans, durée correspondant à la période de cette comète autour du soleil. Le passage le plus intense relaté dans les textes historiques est celui qui fut observé aux Etats Unis d'Amérique le 13 novembre 1833 où pendant 4 heures le ciel fut strié par des dizaines de milliers d'étoiles filantes. Comme toujours cette arrivée de météorites ne fait pas que des heureux. Parmi les inquiets on trouve tous les opérateurs de satellites qui craignent des désordres plus ou moins graves .



Apres les Leonides en novembre on aura droit aux Geminides en décembre. Il s'agit d'un essaim très actif un pic d'environ une centaine d'étoiles filantes à l'heure. Esperons que la nébulosité ne sera pas excessive pour observer le spectacle. Pour en profiter et réaliser des liaisons radio, il faudra diriger les antennes en direction de la constallation des GEMEAUX, une cinquantaine de watts dans une antenne 9 elements étant amplement suffisant en opérant sur la bande des 2 mètres et realiser votre premier QSO .

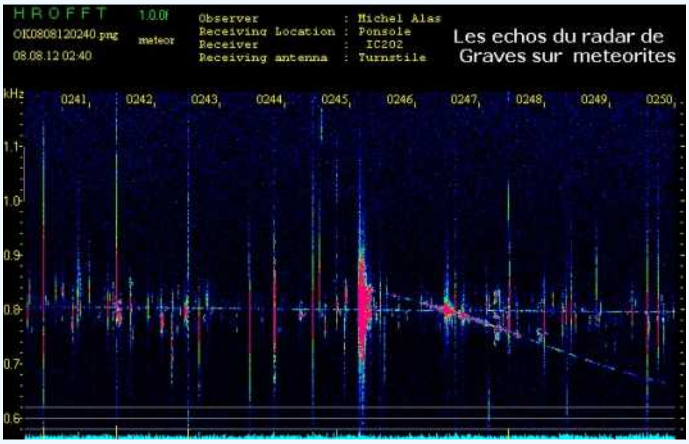
La bande la plus favorable est en effet la bande des 2 métres où un segment est réservé (144.100 mhz pour la CW et 144.400 ou 144.200 pour les liaisons en BLU). Un radio club allemand organise depuis de nombreuses années un concours pour promouvoir ce genre de liaison. Il s'agit du Bavarian Contest Club qui traditionnellement convie les amateurs du monde entier à ce genre de sport entre le 11 decembre et le 15 décembre. Les modes utilisés sont la télégraphie ultrarapide (HSCW) et un mode digital popularisé par K1JT le WSJT. Dans les deux modes on peut concourir dans la catégorie mono ou multi opérateur. Seuls les QSO réalisés en mode "AU HASARD" sont valables. Pas question de prendre rendez vous au préalable via internet car les adeptes de ce mode ne cherchent pas la facilité. La fréquence d'appel en CW se trouve autour de 144.100 avec possiblilite de spécifier une fréquence de dégagement en cas de QRM. Pour le mode WSJT qui est très populaire, les fréquences se situent autour de 144.370 et 144.350 mhz. Le mode WSJT commence à être bien connu dans la communauté radioamateur mondiale. Il s'agit d'un acronyme pour "Weak Signal communication" fait par K1JT, sur une suite de programmes ayant en commun la transmission/réception de signaux trés faibles, pratiquement indétectables à l'oreille. Pour pouvoir le pratiquer, il faut un micro-ordinateur équipé d'une carte son et récupérer une copie du programme libre de tout droit sur le site de son auteur qui est prix Nobel de physique dans le civil (voir http://pulsar.princeton.edu/~joe/K1JT)

Pour faire de la CW à grande vitesse (HSCW, High Speed CW), il vous faudra également récupérer sur Internet le logiciel ad hoc. Il ne s'agit pas de recevoir à 5 mots/minute mais plutôt 1000 mots à la minute. Le record de vitesse dans ce genre semble etre detenu par 2 amateurs américains qui ont réalisé des liaisons à 8600 lettres/minute soit 1720 mots/minute. Avec des vitesses de 1000 mots/minute, pendant la durée d'une trainée de meterorites de 0.4 seconde, on a le temps d'échanger une quarantaine de lettres soit plus qu'il n'en faut pour boucler un qso. Ce qui prend le plus de temps, c'est de trouver le correspondant. Pendant longtemps, le logiciel de référence était celui créé par un amateur croate 9A4GL. On peut encore le trouver sur différents sites mais ne comptez pas sur des mises à jour. Son concepteur ayant eu un probleme avec son disque dur le programme source a disparu dans le crash. En mettant sur votre moteur de recherche favori HSCW et METEOR-SCATTER vous tomberez sur une liste de sites vous proposant à la fois des logiciels et des informations sur la facon de les utiliser , à vous de choisir celui correspondant le plus à vos attentes.

La periode pendant laquelle la terre traverse l'essaim des Geminides se situe entre le 7 et le 17 décembre, le pic étant prévu pour le 14 decembre au matin . Comme chaque année, il est fort possible d'observer de splendides météores le 13 au soir un peu avant le pic maximum.

Curieusement l'origine de l'essaim des GEMINIDES qui se produit en décembre a été longtemps une énigme pour les astronomes. En effet, contrairement aux autres pluies de météorites qui se manifestent depuis des siècles à différentes périodes de l'année, les GEMINIDES n'étaient pas visibles avant le 19ème siècle. La première manifestation eut lieu en 1862. A partir de cette date la comète responsable fut activement recherchée par les astronomes du monde entier mais ce fut finalement un satellite de la NASA qui en 1983 localisa l'objet responsable de la "pluie d'étoiles" de décembre. Il s'agit d'un astéroide de quelques kilomètres de diamètre qui a été baptisé PHAETON 3200. Selon les théories en cours actuellement il aurait été frappé par un autre asteroide et serait , depuis , suivi dans sa course autour du soleil par une myriade de débris qui lorsqu'ils rencontrent l'atmosphère provoquent les étoiles filantes. L'essaim des GEMIDES est facile à observer dans nos contrées pour peu que la météo soit favorable

On peut voir en moyenne de 1 à 2 étoiles filantes à la minute . Si les conditions atmosphériques sont défavorables, vous pourrez écouter les signaux d'émetteurs radio réfléchis sur la traine ionisée qu'elles laissent de facon fugace dans la haute atmopshère vers 100 km d'altitude. Il faut que l'émetteur soit particulièrement puissant pour que le signal réfléchi soit audible. On a le choix d'utiliser les porteuses d'émetteur de télévison opérant en bande 1 ou bien certains radars opérant en VHF. En France beaucoup de radioamateurs utilisent ainsi le radar de Graves. Conçu par l'ONERA (Office National Etudes et Recherches Aerospatiales) pour le compte de l'armée de l'air, il a fait l'objet d'une abondante présentation au salon de l'Aéronautique du Bourget en juin 2007. L'émetteur se situe près de Dijon , la station officielle de réception étant à 400 km de là sur le plateau d'Albion. L'émetteur opére en mode continu sur 143.050 mhz. Les signaux réfléchis sur les trainées de météorites peuvent être très facilement entendus partout en France. Ceux qui ne pourraient pas écouter le 143.050 peuvent se porter à l'écoute d' émetteurs TV en bande 1 . Un particulièrement bien placé pour nous francais est celui se trouvant au centre de l'espagne à Navacerrada et qui émet sur 48.250 mhz mais il en existe bien d'autres . Pour devenir opérationnel dans le domaine de l'observation des météorites par radio l'équipement n'est pas bien compliqué : une antenne dipole ou une petite yagi, un récepteur permettant d'opérer sur la fréquence de l'émetteur lointain retenu , un PC avec une carte son standard et quelques logiciels du domaine public facilement récupérables sur Internet pour analyser le signal audio récupéré. Pour avoir plus de renseignements sur les facons d'opérer et partager les mesures vous pouvez vous joindre au groupe REFORME ((REseau Francais d'Observation Radio des MEteores) en vous abonnant au groupe de discussion YAHOO rad_met_obs à l'adresse http://fr.groups.yahoo.com/group/rad_met_obs. Vous y trouverez beaucoup d'informations pour vous équiper, pour connaitre les fréquences à écouter en tenant compe de votre position géographique et également pour interpréter vos observations. Pour tout savoir sur le trafic via les météorites il existe de nombreux sites sur internet. Celui de F6CRP est particulièrment bien fait. Allez-y faire un tour (adresse http://perso.wanadoo.fr/f6crp/)



Les echos du radar de Graves sur meteorites

En moyenne sur l'année notre terre recoit actuellement environ 300 000 tonnes de météorites la plupart étant trop petites pour arriver au sol se consumant intégralement dans la haute atmosphère. Il faut noter que cette masse est très approximative, évoluant dans un rapport 10 suivant les scientifiques. Il n'en reste pas moins vrai que certaines météorites suffisament grosses parviennent au sol en créant des dégats en relation avec leur énergie cinétique. La dernière de ce type à s'etre écrasée sur terre est celle tombée en début de ce siècle en 1908 à Tunguska en Sibérie et causa un gigantesque incendie dans la foret sibérienne sans faire heureusement de victimes humaines. L'objet qui tomba sur terre en 1908 est surement le plus gros de l'époque historique, mais il y en eu bien d'autres dans le passé plus lointain comme celui qui tomba dans ce qui est maintenant le désert d'Arizona il y a 50000 ans en laissant un cratere de 1200 mètres de diamètre (le cratère de Barringer). Encore plus loin dans le passé (il y a 215 millions d'années). Mais plus près de chez nous un autre astéroide provoqua un cratère de 20 km de diamètre la où se trouve actuellement la ville de Rochechouart (près de Limoges) .

le cratère de Barringer

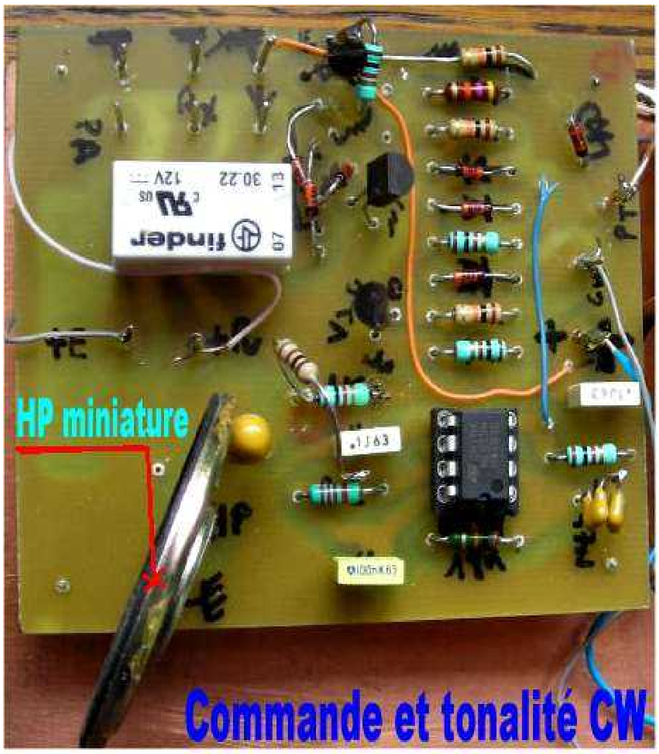
LES RÉALISATIONS DE LA **LIGNE BLEUE**
LE SAVOIR-FAIRE RADIOAMATEUR

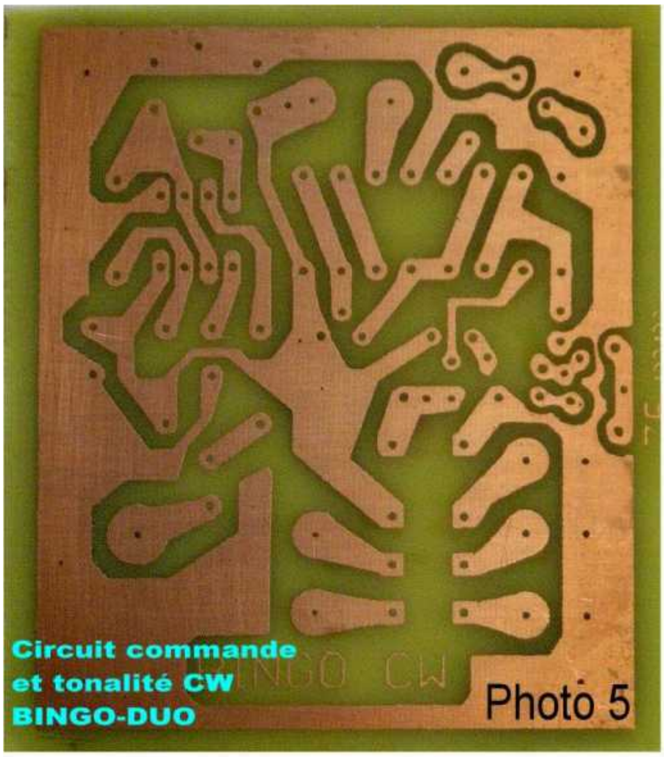
TRANSCEIVER BINGO–DUO SSB CW 40m sur circuit imprimé - 2ème partie

Idée de PY2OHH - Conception & réalisation F6BCU

POUR REJOINDRE GROUPE BINGO QRP :
http://fr.groups.yahoo.com/group/Groupe_BINGO_QRP_SSB_CW/

I—GÉNÉRATEUR DE TONALITÉ et COMMANDE E/R

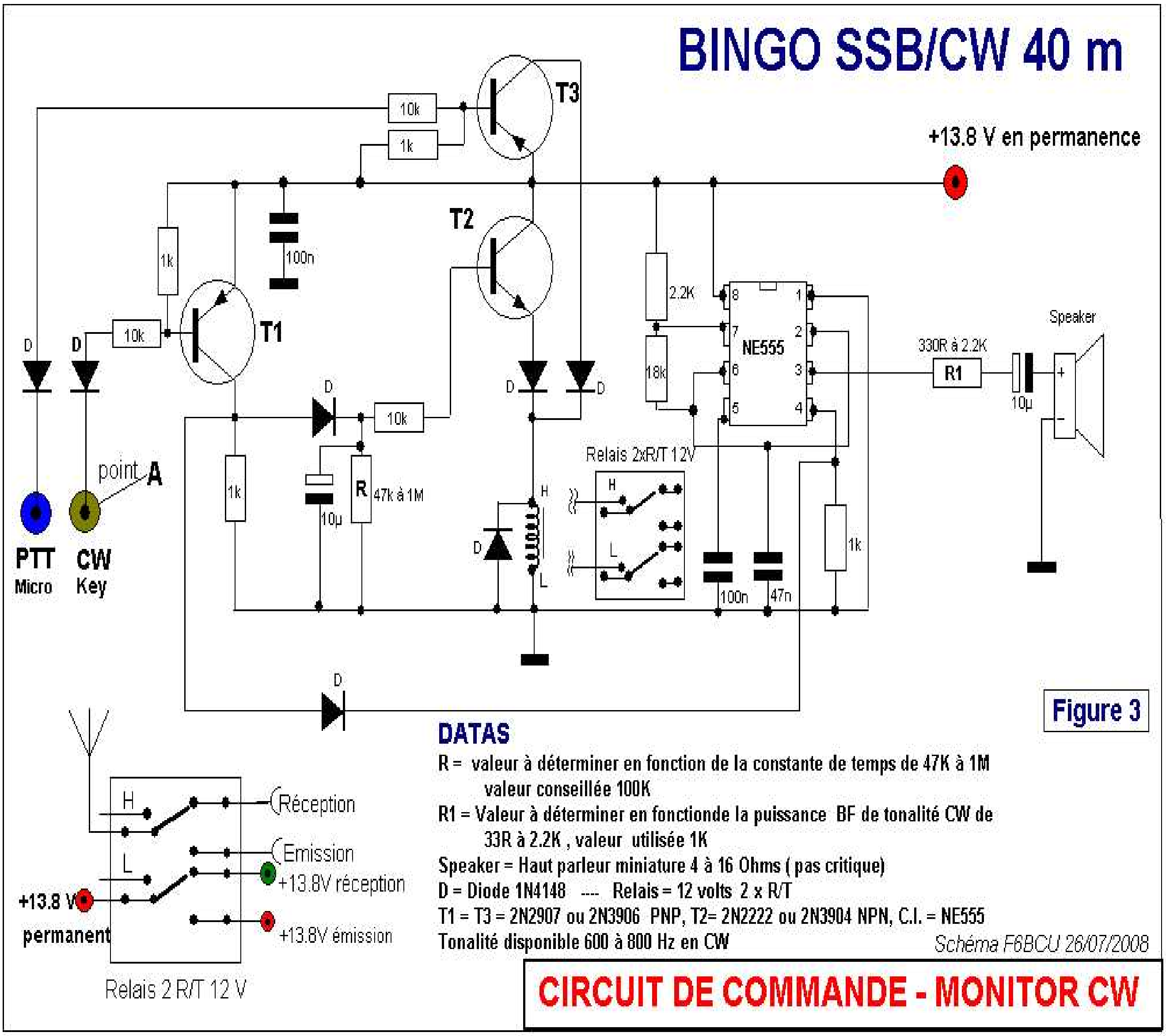




Nous avons regroupé sur une seule platine tous les éléments nécessaires pour faciliter la construction du Générateur de Tonalité CW–Commande émission/réception et faciliter l'implantation des composants.
D'origine cette platine était destinée au BINGO CW 40 ; une modification technique comportant l'adjonction d'une commande PTT micro séparée de la commande de manipulation assure désormais en toute indépendance le trafic en SSB ou en CW.
Nous avons le passage automatique en émission dès le premier coup de manipulateur avec Vox HF et d'autre part la génération de la tonalité de contrôle de la CW. Ce système très convivial assure un trafic rapide et efficace en CW QRP. Le relais d'antenne qui est un 2 R/T en plus du passage en émission / réception, assure la distribution des tensions +E et +R avec encore la simplicité dans la commutation émission--réception SSB ou CW.
Pour avoir une écoute de Contrôle de tonalité CW agréable, rechercher une valeur de R1 à ajuster entre 33 et 2.200Ω. Cette tonalité est fixe indépendante, sans influence avec le réglage audio BF en réception.

Remarque de l'auteur :
En trafic SSB, avec la commande PTT micro la partie manipulation ne peut être activée, et aucune réaction d'un mode à l'autre n'a été observée. Par précaution le Générateur SSB est désactivé en émission CW par la suppression de son alimentation.

LE SCHÉMA



DATAS

R = valeur à déterminer en fonction de la constante de temps de 47K à 1M
valeur conseillée 100K
R1 = Valeur à déterminer en fonctionde la puissance BF de tonalité CW de
33R à 2.2K , valeur utilisée 1K
Speaker = Haut parleur miniature 4 à 16 Ohms (pas critique)
D = Diode 1N4148 ---- Relais = 12 volts 2 x R/T
T1 = T3 = 2N2907 ou 2N3906 PNP, T2= 2N2222 ou 2N3904 NPN, C.I. = NE555
Tonalité disponible 600 à 800 Hz en CW

Schéma F6BCU 26/07/2008

CIRCUIT DE COMMANDE - MONITOR CW

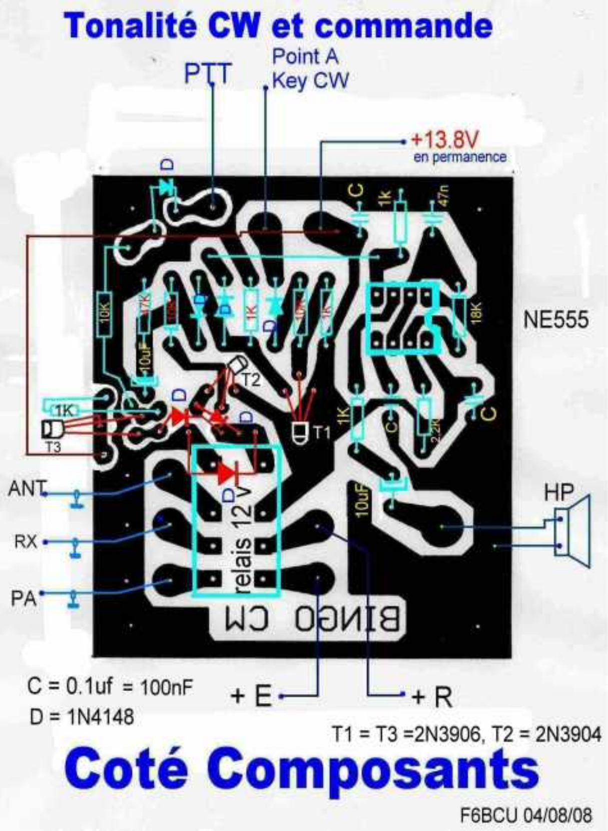
DÉTAIL DES COMPOSANTS :

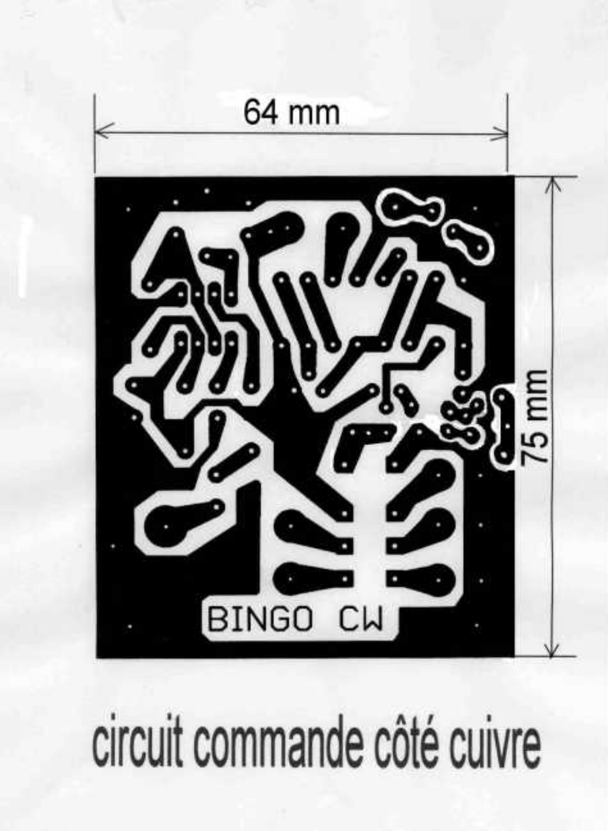
R = Valeur à déterminer en fonction de la constante de temps de 47k à 1MΩ, valeur conseillée 100K,
R1 = Valeur à déterminer en fonction de la puissance BF de tonalité CW de 330 R à 2.2K, valeur utilisée 1K.
Speaker - Ht parleur miniature 4 à 16 Ohms (pas critique)
D = 7 x diode 1N4148--- 1 x Relais = 12 volts –2R/T
T1 = 2N2907 ou 2N3906 PNP
T2 = 2N2222 ou 2N3904 NPN
CI = NE555
Tonalité disponible 600 à 800 Hz en CW.
Haut-parleur de 4 à 16 ohms

IMPLANTATION DES COMPOSANTS ET CIRCUIT IMPRIMÉ

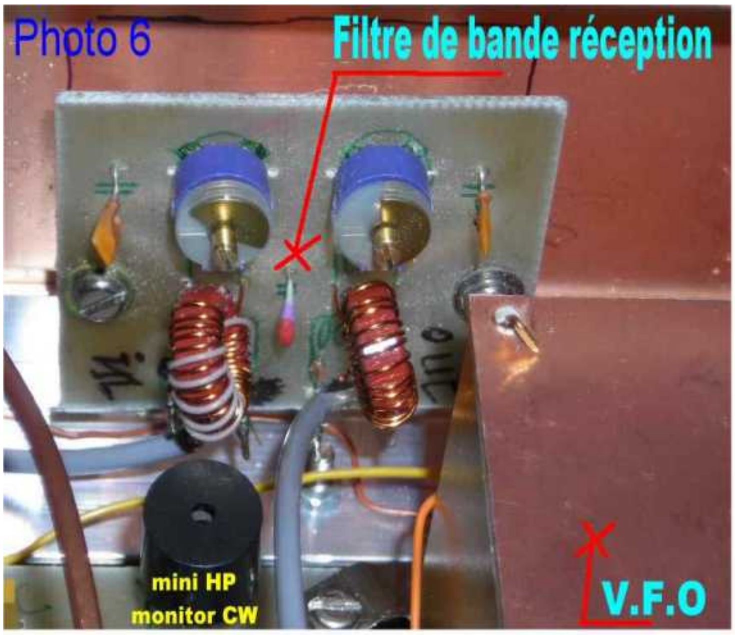
Ci-dessous sont présentées 2 planches photos :

- L'implantation de tous les composants actifs et passifs.
- Le circuit imprimé côté cuivre sur époxy ou bakélite simple face (pas critique)

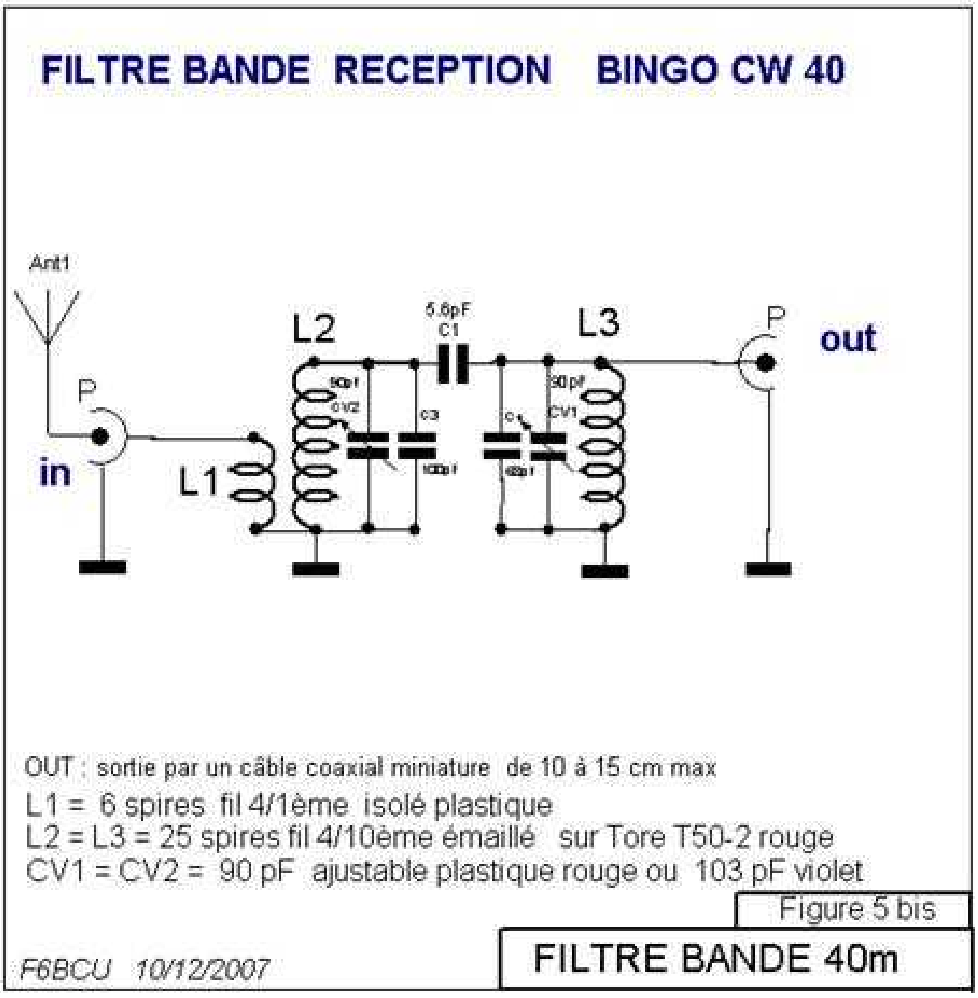




II--FILTRE DE BANDE RÉCEPTION



Ce filtre de bande nouvelle version a déjà été expérimenté et est implanté sur la maquette d'origine du BINGO CW 40.
Il est identique sur le BINGO-DUO SSB CW 4O.
Par rapport aux autres filtres de bandes précédents utilisé sur 40 m avec la sortie sur le NE612 n° 2 pin n°2 par bobinage secondaire de quelques spires couplées au circuit d'accord, nous partons d'une liaison capacitive haute impédance directement par un petit câble coaxial de 10 à 15 cm de long. Bien entendu la capacité d'accord additive est ramenée à 68pF, pour compenser la capacité propre du coaxial.



FILTRE BANDE RECEPTION BINGO CW 40

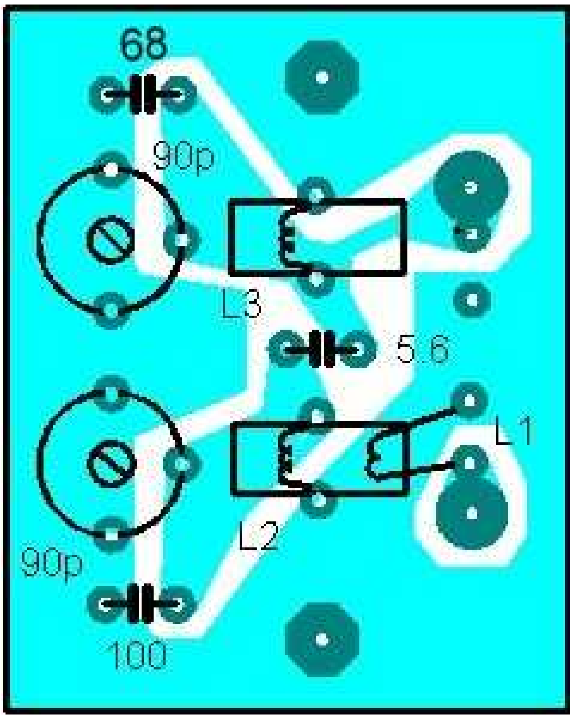
OUT : sortie par un câble coaxial miniature de 10 à 15 cm max
L1 = 6 spires fil 4/1ème isolé plastique
L2 = L3 = 25 spires fil 4/10ème émaillé sur Tore T50-2 rouge
CV1 = CV2 = 90 pF ajustable plastique rouge ou 103 pF violet

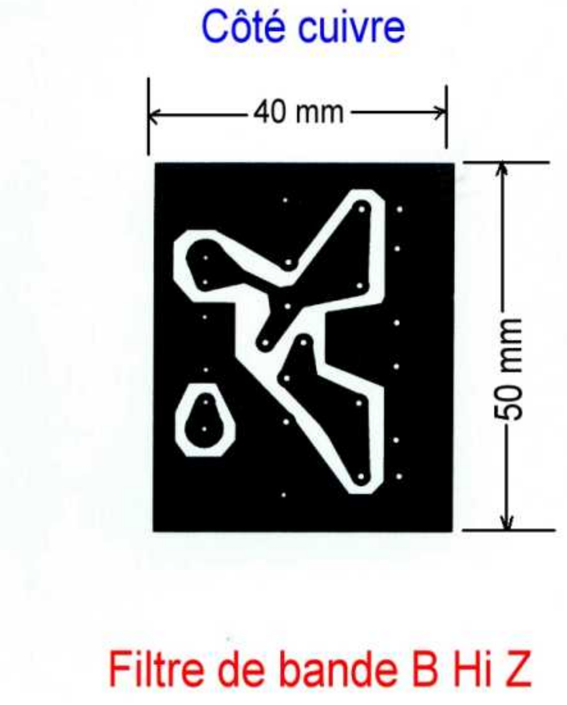
Figure 5 bis

FILTRE BANDE 40m

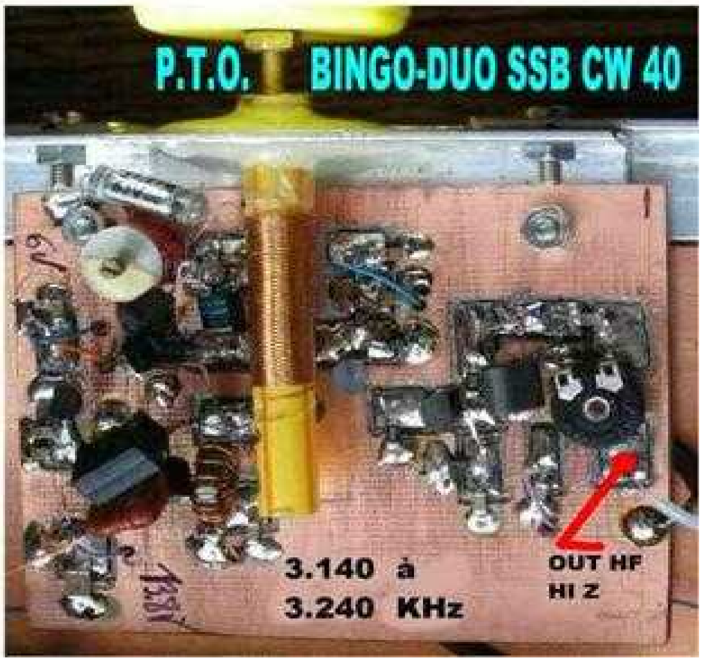
F6BCU 10/12/2007

FILTRE DE BANDE IMPLANTATION - CIRCUIT CÔTÉ CUIVRE





III—V.F.O.—P.T.O.



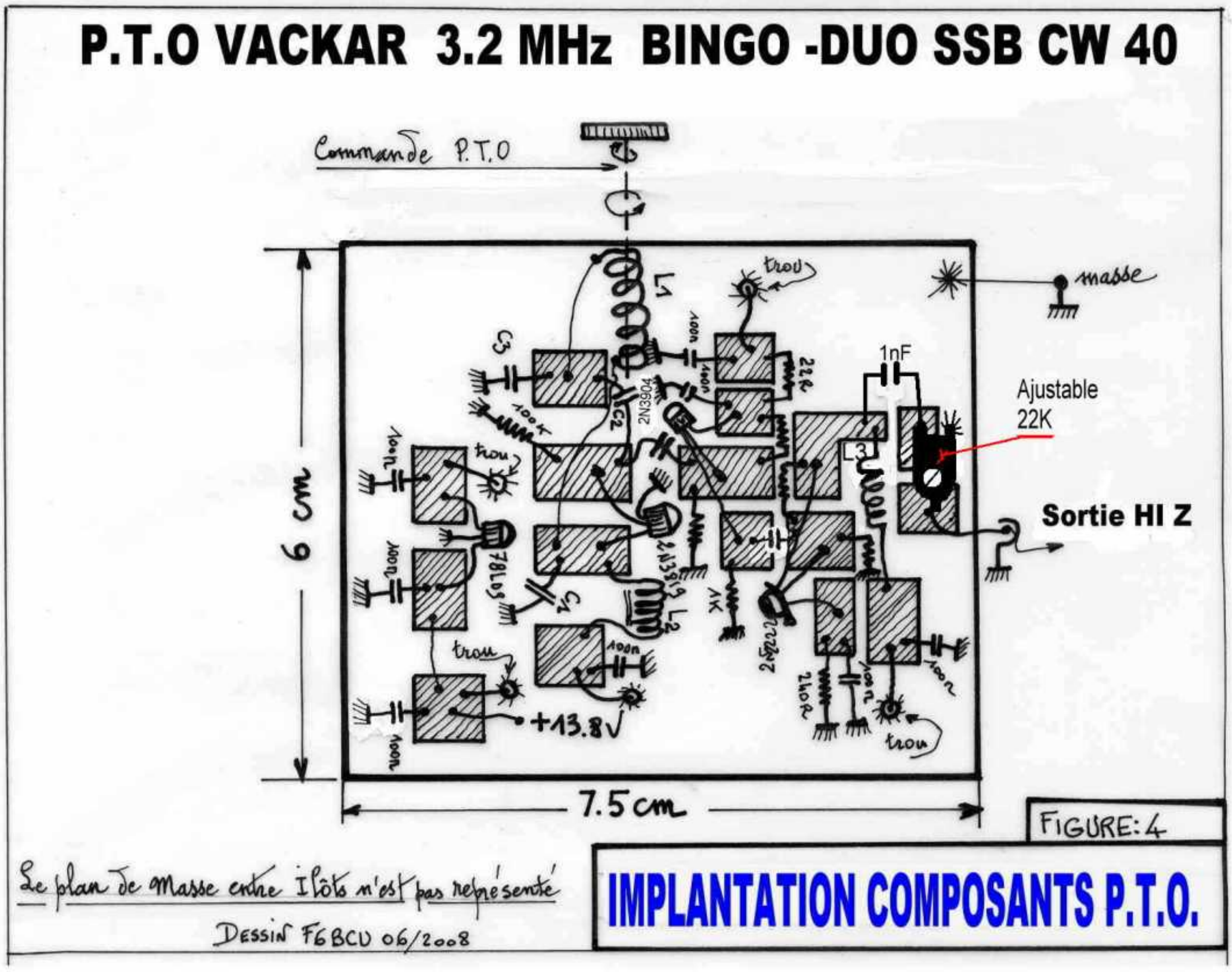
Nous avons dans les 2 articles précédents : Manuel de construction du * P.T.O.*

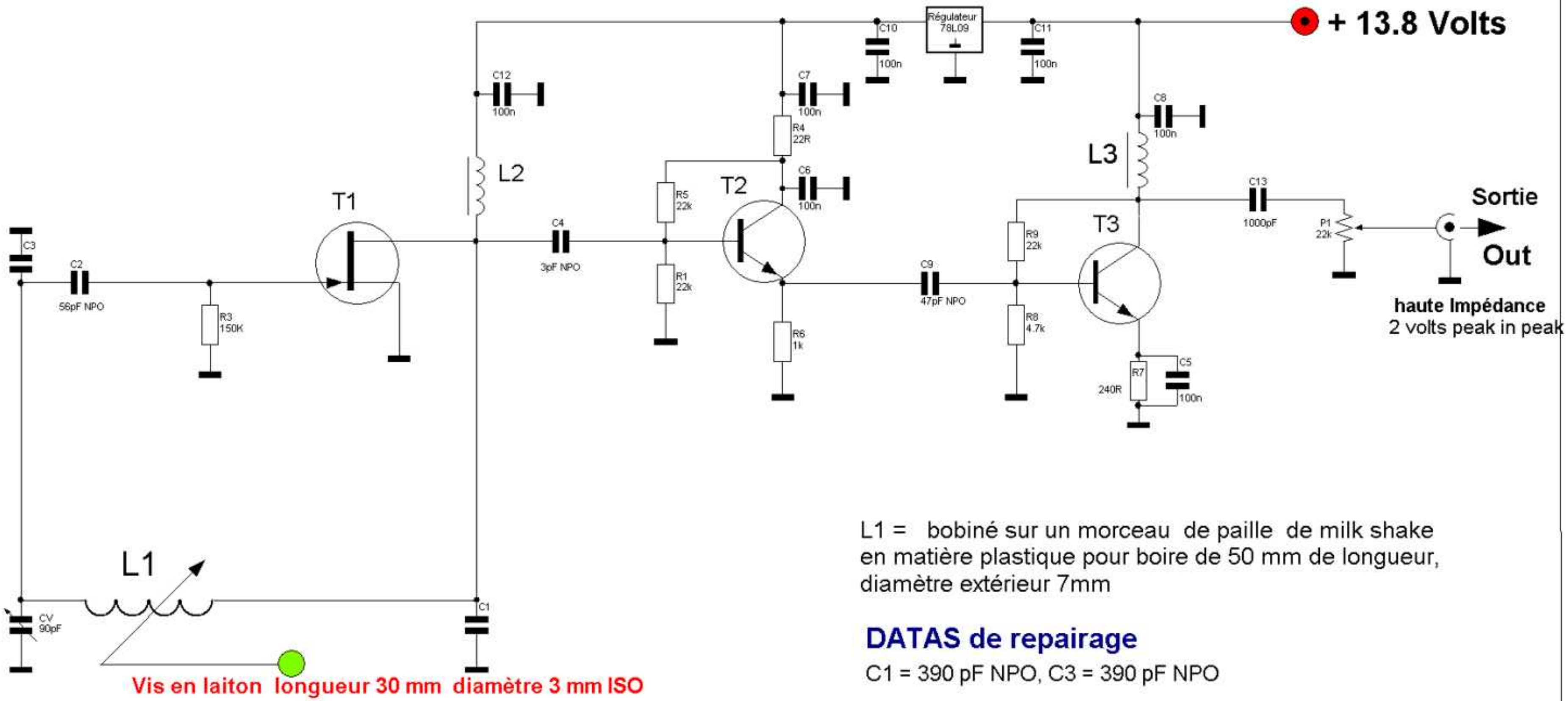
Décrit de long et en large tout ce qu'il fallait connaître sur le P.T.O. (Permeability Tuning Oscillator) pour le construire en toute facilité.

Le Transceiver BINGO–DUO SSB CW est le premier transceiver de la série bénéficiant de cette nouveauté.

Bien que construit directement à l'air libre, et que la stabilité soit déjà excellente, travaillant sur fréquence basse (3.200 KHz), il serait possible de mettre le P.T.O. et sa platine de montage dans un petit coffret, construit par exemple avec de l'époxy ou de la bakélite cuivrée.

IMPLANTATION DES COMPOSANTS





DATAS PTO 3.2 MHz

T1 = 2N3819 = BF245
T2 =T3 = 2N3904, 2N2222
L1= 90 spires jointives de fil émaillé 2/10ème sur mandrin diamètre 7mm (voir détail)
L2 = L3 = self de choc 33uH ou 8 tours de fil 4/10 émaillé sur Tore 37/43
P1 = résistance ajustable 22K

Bande de fréquences : 3140 KHz à 324O KHz , C1 = 390 pF + 56 pF NPO ou styroflex
C3 = 330 pF NPO ou styrflex

Vis enfoncée fréquence Haute
Vis sortie fréquence basse

L1 = bobiné sur un morceau de paille de milk shake en matière plastique pour boire de 50 mm de longueur, diamètre extérieur 7mm

DATAS de repairage

C1 = 390 pF NPO, C3 = 390 pF NPO

Bande de fréquences : L1= 70 spires fil 2/10ème émaillé spires jointive
3, 45 à 3,65 MHz

Bande de fréquences : L1 = 64 spires fil 2/10ème émaillé spires jointive
3,6 à 3,725 MHz

Bande de fréquences : L1 = 60 spires file 2/10 ème émaillé spires jointi
3,64 à 3,78 MHz

Dessin F6BCU 5 mai 2008

Figure : 1

OSCILLATEUR P.T.O. 3,2 MHz BINGO 40 SSB /CW

COMMENTAIRE TECHNIQUE SUR LE SCHÉMA

L’oscillateur pilote est un classique VACKAR à transistor à effet de champ 2N3819 qui est très approprié pour cette fonction (le J310 est instable).

Il est impératif que la vis en laiton Ø 3mm enfoncée au maximum soit ras les premières spires de L1 qui fait 18mm de long (0.2 mm x 90 spires). Le CV ajustable de 90 pF va nous servir au calage dans la bande de fréquence.

- Vis enfoncée se caler sur 3.240 KHz.
- Dévisser d’environ +/- 15 tours et s’assurer d’arriver à 3.140 KHz.

La capacité C4 de 3 pF NPO prélève la HF sur le Drain de T1 pour rejoindre la chaîne amplificatrice T2 et T3 en large bande largement utilisée sur nos oscillateurs V.F.O.

L’oscillateur P.T.O. est très peu sollicité au niveau de la HF. Il est aussi bien isolé de toute charge par T2 et T3. En sortie nous avons environ 2 volts P.E.P. La résistance ajustable P1 va régler le niveau HF à injecter sur le NE 612 N°2 (Pin 6)

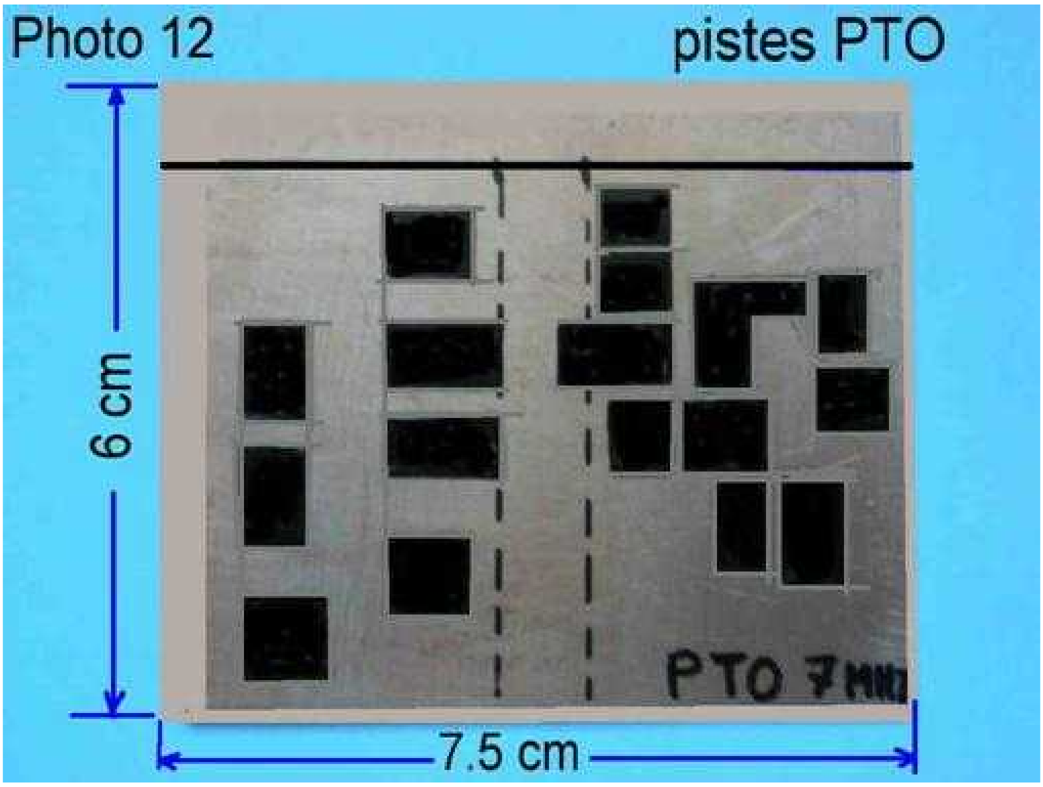
L’utilisation de 2 amplificateurs séparateurs T2 et T3 n’est pas surfaite car elle conditionne aussi cette fameuse stabilité qui a fait la renommée de l’oscillateur Vackar.

Bien que la sortie HF soir faite en haute impédance, l’oscillation est véhiculée vers la Pin 6 du NE612 N°2 par un petit coaxial, la réserve d’excitation HF est plus que suffisante pour négliger les pertes et la désadaptation d’impédance rencontrées. Ce qui compte, ça fonctionne très bien.

Note de l’auteur :

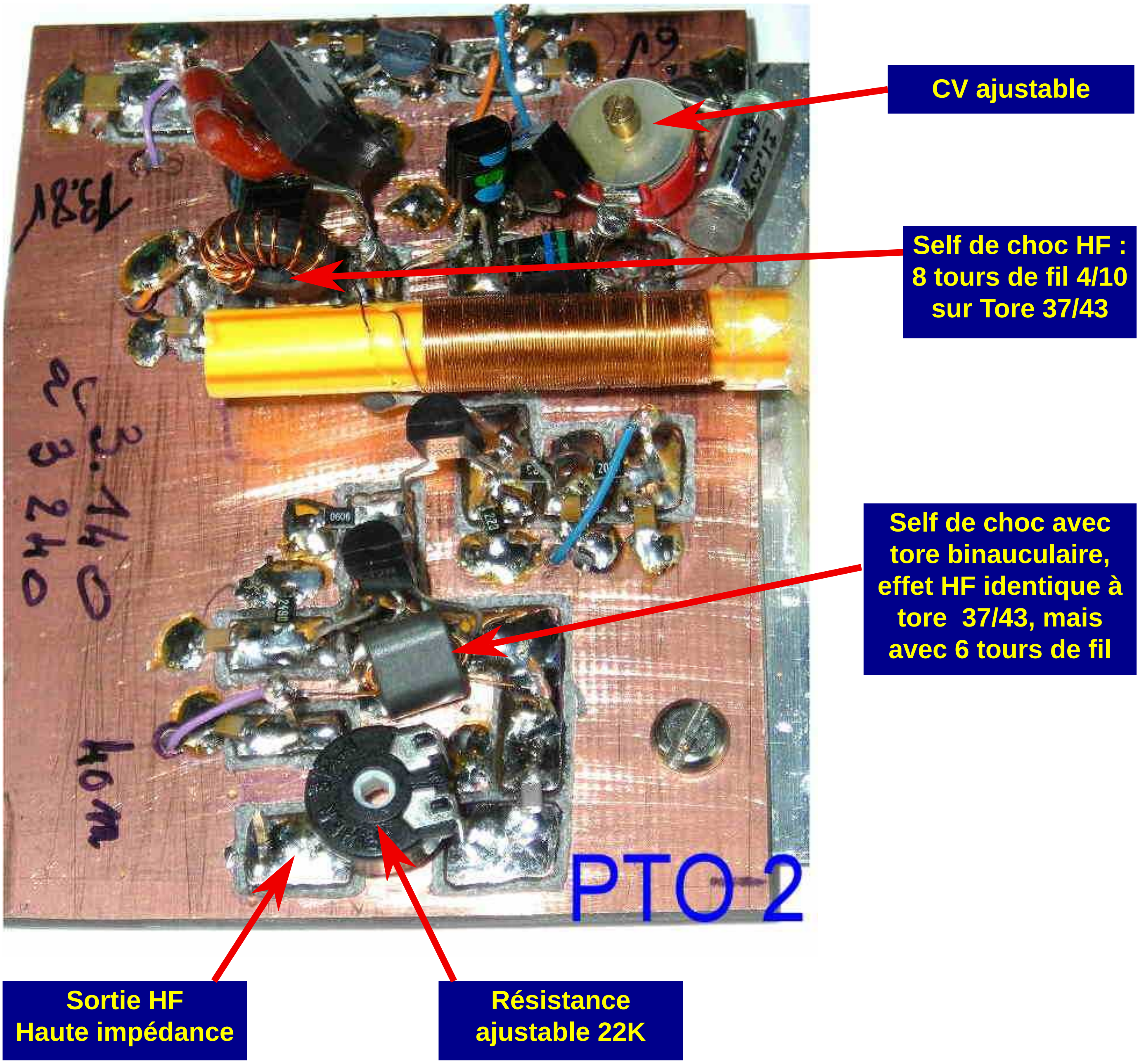
Quelques données de repérage sur le nombre de spires de L1 et la fréquence couverte sont données (schéma figure 1) à titre indicatif pour mieux connaître le PTO, qui fonctionne actuellement sur des fréquences supérieures à 14 MHz avec une excellente stabilité.

CIRCUIT CUIVRE



Le circuit de base est une plaque en époxy cuivré double face. L’utilisation de l’époxy cuivré double face a son importance. La face inférieure est reliée électriquement au plan de masse supérieur et assure une constante capacitive dont l’effet est très important sur la stabilité générale du P.T.O.

Les pistes en noir sont détourées à la fraise avec un DREMEL, ceci est une méthode qui n'est pas exhaustive, d'autres sont laissées au choix du constructeur. Pour de plus amples détails et explications nous vous recommandons de lire : « le manuel de montage du P.T.O », les 2 articles précédents.



CV ajustable

Self de choc HF : 8 tours de fil 4/10 sur Tore 37/43

Self de choc avec tore binauculaire, effet HF identique à tore 37/43, mais avec 6 tours de fil

Sortie HF Haute impédance

Résistance ajustable 22K

FIN de la 2ème partie

F8KHM –Radio club de la Ligne bleue –- SAINT DIE DES VOSGES
F6BCU- Bernard MOUROT—9 rue de Sources—REMOMEIX-- VOSGES
28 septembre 2008

F6HQY Une Antenne entre les dents

Bernie de F6HQY nous propose sur un ton comique et incisif, une nouvelle concernant notre monde radioamateur. A prendre au second degré, cette nouvelle en plusieurs parties s'intitule :

CHATEAU FOIREUX (7ème partie)

Toute ressemblance avec des personnages existant ou ayant existé est fortuite et involontaire de l'auteur.

Les filaments des tubes s'allumèrent et les deux gros ventilateurs se mirent à tourner. Le milliampèremètre indiquait un courant de repos convenable – inférieur à 50 Milli – et la haute tension était stable. André fît :

- Vous rigolez moins, là, les gars ! Cet ampli est certes rustique, mais il fonctionne au petit poil...
- OK, je reconnais que tu es le roi de la bidouille. Mais dépêche toi de le régler que Cédric puisse faire des QSO !
- Voilà, ça vient, faut quand même laisser chauffer un peu les tubes ! Bon, je vais faire le creux plaque, regarde Cédric, ce n'est pas tous les jours que tu vas voir un truc pareil... Passe en émission, plutôt en FM, que je commute l'ampli.

Cédric appuya sur la pédale du micro et André activa le relais de commutation avec son interrupteur.

Plusieurs évènements se produisirent alors, quasi simultanément, mais seul le recul du temps permis de reconstituer l'enchaînement des faits.

Une première explosion signala le fait que les capas de l'alimentation rendaient l'âme. Ce fait eût deux conséquences immédiates : les tubes de l'ampli explosèrent, plusieurs morceaux de verre allant se ficher dans la peau des spectateurs – ainsi d'ailleurs que dans celle de l'opérateur – avec un joli bruit cristallin. Presque dans le même temps, un « cling » du plus bel effet indiqua que la face avant de l'IC706 avait choisi la liberté. Elle n'alla cependant pas très loin puisque Robert, penché pour observer la manœuvre, la prit dans la figure. Cédric s'était déjà jeté par terre tandis qu'André regardait roussir les poils du dos de sa main.

Une seconde explosion succéda à la première et Jacques vît un vieux compteur EDF noir, encore attaché à son socle en bois, éjecté par la porte d'entrée que Robert avait laissée ouverte.

Un silence surnaturel se fît alors, personne ne disait un mot ni ne songeait à panser ses plaies. C'était Beyrouth, en plus petit toutefois. Robert fût le premier à prendre la parole :
- Y'a pas à dire, ton truc, c'est une arme de destruction massive ! Chapeau, Monsieur l'artificier. Deux ou trois amplis comme ça et la guerre d'Afghanistan est finie !
- Je ne comprends pas...fît André.
- C'est épouvantable, dit Jacques, le poste est complètement mort et j'ai des éclats de verre partout. Avec le boulon que je me suis pris tout à l'heure dans la tronche, on peut dire que c'est complet...
Cédric allait se joindre au concert des lamentations lorsque deux nouveaux évènements se produisirent. Tout d'abord, une épaisse fumée se mit à jaillir par la porte d'entrée du château.
- Seigneur, on a foutu le feu au château !
Personne n'eût le temps de répondre à Cédric. Le Vicomte apparût à sa fenêtre en braillant :
- Keski se passe ! C'est la guerre ???
Puis, avisant la fumée qui sortait du rez de chaussée :
- Ha, Nom de Dieu ! Les sagouins ont foutu le feu au Château ! Mon fusil !
- Ce n'est rien, monsieur le Vicomte, on va tout arranger !... N'est-ce pas, vous autres ?
Jacques était dans un état proche de la panique mais bon, en tant que président, il se devait de dire quelque chose. Robert répondit, en reculant vers le Scénic :
- Si tu veux mon avis, on a intérêt à se casser vite fait. Ce type est complètement cinglé ! Il va défourailler sur tout ce qui bouge...
De fait, le Vicomte réapparut à sa fenêtre avec le fusil et se mit à tirer en direction du petit groupe. Sauve qui peut général, ils se précipitèrent dans le Scénic en laissant ça et là tout ce qu'ils avaient amenés. Robert prit le volant pendant que les autres s'écrasaient sur la banquette arrière, et démarra en faisant bramer le moteur. Le Scénic dérapa sur les graviers de la cour, reprit sa trajectoire juste avant de percuter un des deux piliers qui encadraient l'entrée, et s'éloigna tandis qu'un dernier coup de feu faisait exploser un des feux arrières de la voiture.

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